PATERSON GROUP

Environmental Noise Control Study

Proposed Residential Development

5872, 5880 to 5884 Hazeldean Road and 7 Savage Drive
Ottawa, Ontario

Prepared for Hazeldean Heights Inc.

Report PG7398-1 Revision 2 - Dated September 22, 2025

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1.0 Introduction

Paterson Group (Paterson) was commissioned by Hazeldean Heights Inc. to conduct an environmental noise control study for the proposed residential development to be located at 5872, 5880 to 5884 Hazeldean Road and 7 Savage Drive, in the City of Ottawa.

The objective of the current study is to:

- ❑ Determine the primary noise sources impacting the site and compare the projected sound levels to guidelines set out by the Ministry of Environment Conservation and Parks (MOECP) and the City of Ottawa.

- ❑ Review the projected noise levels and offer recommendations regarding warning classes, construction materials or alternative sound barriers.

This report has been prepared specifically and solely for the aforementioned project which is described herein. It contains our findings and includes acoustical recommendations pertaining to the design and construction of the subject residential development as they are understood at the time of writing this report.

This study has been conducted according to the City of Ottawa document - Engineering Noise Control Guidelines (ENCG), dated January 2016, and the Ontario Ministry of the Environment Guideline NPC-300.

2.0 Proposed Development

It is understood that the proposed residential development currently has two site plan options. The first will consist of three multi-storey residential buildings (denoted as Building A, Building B and Stacked Towns) and the second option will consist of two multi-storey residential buildings (denoted as Building A and Building B). Associated at-grade roadways, parking areas, landscaped areas, and outdoor living areas are also anticipated to be a part of the proposed residential development.

3.0 Methodology and Noise Assessment Criteria

The City of Ottawa outlines three (3) sources of environmental noise that must be analyzed separately:

- ❒ Surface Transportation Noise
- ❒ Stationary Noise
  - ➢ New noise-sensitive development applications (noise receptors) in proximity to existing or approved stationary sources of noise, and
  - ➢ New stationary sources of noise (noise generating) in proximity to existing or approved noise-sensitive developments.
- ❒ Aircraft noise

Surface Transportation Noise

The City of Ottawa's Official Plan, in addition to the ENCG, dictate that the influence area must contain any of the following conditions to classify as a surface transportation noise source for a subject site:

- ❒ Within 100 m of the right-of-way of an existing or proposed arterial, collector or major collector road; a light rail transit corridor; bus rapid transit, or transit priority corridor.
- ❒ Within 250 m of the right-of-way for an existing or proposed highway or secondary rail line.
- ❒ Within 300 m from the right of way of a proposed or existing rail corridor or a secondary main railway line.
- ❒ Within 500 m of an existing 400 series provincial highway, freeway or principle main railway line.

The NPC-300 outlines the limitations of the stationary and environmental noise levels in relation to the location of the receptors. These can be found below in the following tables:

Table 1 - Sound Level Limits for Outdoor Living Areas	
Time Period	**Required $L_{eq(16)}$ (dBA)**
16-hour, 7:00-23:00	55
I. Standards taken from Table 2.2a; Sound Level Limit for Outdoor Living Areas - Road and Rail	

Table 2 - Sound Level Limits for Indoor Living Area			
Type of Space	**Time Period**	**Required L_{eq} (dBA)**	
		Road	**Rail**
Living/Dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc	7:00-23:00	45	40
Theatres, places of worship, libraries, individual or semi-private offices, conference rooms, reading rooms	23:00-7:00	45	40
Sleeping quarters	7:00-23:00	45	40
	23:00-7:00	40	35
I. Standards taken from Table 2.2b; Sound Level Limit for Indoor Living Areas - Road and Rail			

It is noted in ENCG that the limits outlined in Table 2 are for the sound levels on the interior of the glass pane. The ENCG further goes on to state that the limit for the exterior of the pane of glass will be 55 dBA.

If the sound level limits are exceeded at the window panes for the indoor living areas, the following Warning Clauses may be referenced:

Table 3 - Warning Clauses for Sound Level Exceedances	
Warning Clause	**Description**
Warning Clause Type A	"Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type B	"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic (rail traffic) (air traffic) may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type C	"This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium-density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."
Warning Clause Type D	"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."
I. Clauses taken from section C8 Warning Clauses; Environmental Noise Guidelines - NPC-300	

Stationary Noise

Stationary noise sources include sources or facilities that are fixed or mobile and can cause a combination of sound and vibration levels emitted beyond the property line. These sources may include commercial air conditioner units, generators and fans. Facilities that may contribute to stationary noise may include car washes, snow disposal sites, transit stations and manufacturing facilities.

The proposed residential development is not in proximity to any existing or approved stationary sources of noise. Therefore, a stationary noise analysis will not be required with respect to off-site stationary noise sources impacting the proposed residential development.

Aircraft/Airport Noise

The subject site is not located within the Airport Vicinity Development Zone. Therefore, this project will not require an aircraft/airport noise analysis. No warning clauses regarding aircraft or airport noise will be required.

4.0 Analysis

Surface Transportation Noise

The subject site is currently occupied by a commercial business and is bordered by Hazeldean Road to the northwest, Savage Drive to the southwest, residential dwellings to the north and south, and commercial properties to the east. Hazeldean Road, Savage Drive and Sweetnam Drive were identified within the 100 m radius of the proposed residential development.

Based on the new City of Ottawa Official Plan, Schedule F, Hazeldean Road is considered a 4-lane urban arterial road (4-UAD). Other roads within the 100 m radius of the proposed residential development are not classified as either arterial, collector or major collector roads and therefore are not included in this study.

All noise sources are presented in Drawing PG7398-1-Site Geometry located in Appendix 1.

The noise levels from road traffic are provided by the City of Ottawa which takes into consideration the right-of-way width and the implied roadway class. It is understood that these values represent the maximum allowable capacity of the proposed roadways. The parameters to be used for sound-level predictions can be found below.

Table 4 - Traffic and Road Parameters

Road	Implied Roadway	AADT (Veh/day)	Posted Speed (km/h)	Day/Night Split %	Medium Truck %	Heavy Truck %
Hazeldean Road	4-UAD	35000	60	92/8	7	5
Data obtained from the City of Ottawa document ENCG or City of Ottawa Officials						

Eight (8) levels of reception points were selected for this analysis. The following elevations were selected from the heights provided on the survey plan for the subject buildings.

Table 5 - Elevation of Reception Points			
Floor Number	**Elevation at the Centre of Window / Above Ground Surface (m)**	**Floor Use**	**Daytime/Nighttime Analysis**
Ground Surface	1.5	Outdoor Living Area	-
Ground Floor	1.5	Living Area/Bedroom	Daytime/nighttime
Fourth Floor	10.5	Living Area/Bedroom	Daytime/nighttime
Fifth Floor	13.5	Living Area/Bedroom	Daytime/nighttime
Sixth Floor	16.5	Living Area/Bedroom	Daytime/nighttime
Eighth Floor	22.5	Living Area/Bedroom	Daytime/nighttime
Thirteenth Floor	37.5	Living Area/Bedroom	Daytime/nighttime
Nineteenth Floor	55.5	Living Area/Bedroom	Daytime/nighttime
Twenty-Fifth Floor	73.5	Living Area/Bedroom	Daytime/nighttime

For this analysis, a reception point was taken at the centre of each floor at the ground floor, fourth floor, fifth floor, sixth floor, eighth floor, thirteenth floor, nineteenth floor and twenty-fifth floor of the proposed structures. Additionally, receptor points for the outdoor living areas were taken at 1.5 m above the ground surface. Reception points are detailed in Drawing PG7398-2 and PG7398-8 Receptor Location Plans presented in Appendix 1.

All horizontal distances have been measured from the reception point to the edge of the right-of-way. The roadways were analyzed where they intersected the 100 m buffer zone, which is reflected in the local angles described in Paterson Drawings PG7398-3A to 12B-Site Geometry in Appendix 1.

Table 9 - Summary of Reception Points and Geometry, located in Appendix 1, provides a summary of the points of reception and their geometry concerning the noise sources. The analysis is completed so that no effects of sound reflection off the building facade are considered, as stipulated by the ENCG. It should be noted that one receptor is assigned to the side of the building affected by noise. There is one noise source identified as part of the current study: Hazeldean Road. The anticipated noise at each receptor represents the worst-case scenario for each building.

The analysis was completed using STAMSON version 5.04, a computer program which uses the road and rail traffic noise prediction methods using ORNAMENT (Ontario Road Noise Analysis Method for Environment and Transportation) and STEAM (Sound from Trains Environment Analysis Method), publications from the Ontario Ministry of Environment and Energy.

The subject site is relatively level and at grade with the neighbouring roads within a 100 m radius.

5.0 Results

Surface Transportation

The primary descriptors are the 16-hour daytime and the 8-hour nighttime equivalent sound levels, $L_{eq(16)}$ and the $L_{eq(8)}$ for City roads.

The proposed traffic noise levels were analyzed at all reception points. The results of the STAMSON software are located in Appendix 2, and the summary of the results is noted in Table 6 below.

Table 6 – Proposed Noise Levels

Reception Point	Description	OLA (dBA)	Daytime at Facade $L_{eq(16)}$ (dBA)	Nighttime at Facade $L_{eq(8)}$ (dBA)
REC 1-1	Northeast Elevation - 1st Floor - Building A - Podium - Option 1	-	67.69	60.09
REC 1-6	Northeast Elevation - 6th Floor - Building A - Podium - Option 1	-	68.69	61.09
REC 2-1	Northwest Elevation - 1st Floor - Building A - Podium - Option 1	-	72.15	64.55
REC 2-6	Northwest Elevation - 6th Floor - Building A - Podium - Option 1	-	72.92	65.32
REC 3-1	Northwest Elevation - 1st Floor - Building A - Option 1	-	72.15	64.56
REC 3-8	Northwest Elevation - 8th Floor - Building A - Option 1	-	73.29	65.69
REC 3-19	Northwest Elevation - 19th Floor - Building A - Option 1	-	73.35	65.75
REC 4-1	Southwest Elevation - 1st Floor - Building A - Option 1		64.98	57.39
REC 4-8	Southwest Elevation - 8th Floor - Building A - Option 1		67.37	59.77
REC 4-19	Southwest Elevation - 19th Floor - Building A - Option 1		67.49	59.89
REC 5-1	Southern Elevation - 1st Floor - Building A - Option 1		48.39	40.80
REC 5-8	Southern Elevation - 8th Floor - Building A - Option 1		53.91	46.31

Reception Point	Description	OLA (dBA)	Daytime at Facade $L_{eq(16)}$ (dBA)	Nighttime at Facade $L_{eq(8)}$ (dBA)
REC 5-19	Southern Elevation - 19th Floor - Building A - Option 1		54.18	46.58
REC 6-1	Eastern Elevation - 1st Floor - Building A - Option 1		54.24	46.64
REC 6-6	Eastern Elevation - 6th Floor - Building A - Podium - Option 1		57.44	49.85
REC 7-1	Northern Elevation - 1st Floor - Building A - Podium - Option 1		54.10	46.50
REC 7-6	Northern Elevation - 6th Floor - Building A - Podium - Option 1		57.34	49.75
REC 8-1	Northeast Elevation - 1st Floor - Building B - Option 1		63.55	55.95
REC 8-13	Northeast Elevation - 13th Floor - Building B - Option 1		66.42	58.82
REC 8-25	Northeast Elevation - 25th Floor - Building B - Option 1		66.42	58.82
REC 9-1	Northwest Elevation - 1st Floor - Building B - Option 1		72.15	64.56
REC 9-13	Northwest Elevation - 13th Floor - Building B - Option 1		73.35	65.75
REC 9-25	Northwest Elevation - 25th Floor - Building B - Option 1		73.35	65.75
REC 10-1	Southwest Elevation - 1st Floor - Building B - Option 1		63.89	56.29
REC 10-13	Southwest Elevation - 13th Floor - Building B - Option 1		66.75	59.15
REC 10-25	Southwest Elevation - 25th Floor - Building B - Option 1		66.75	59.15
REC 11-1	Northeast Elevation - 1st Floor - Towns - Option 1		56.33	48.73
REC 11-4	Northeast Elevation - 4th Floor - Towns - Option 1		58.26	50.66
REC 12	Outdoor Living Area - Option 1	60.88	-	-
REC 12	Outdoor Living Area – Option 1 – Building Orientations Considered	54.23	-	-
REC 13-1	Northwest Elevation - 1st Floor - Towns - Option 1		61.63	54.04

Reception Point	Description	OLA (dBA)	Daytime at Facade $L_{eq(16)}$ (dBA)	Nighttime at Facade $L_{eq(8)}$ (dBA)
REC 13-4	Northwest Elevation - 4th Floor - Towns - Option 1		63.37	55.77
REC 14-1	Southwest Elevation - 1st Floor - Towns - Option 1		56.12	48.53
REC 14-4	Southwest Elevation - 4th Floor - Towns - Option 1		58.09	50.49
REC 15-1	Northwest Elevation - 1st Floor - Building B - Option 2		52.59	45.00
REC 15-5	Northwest Elevation - 5th Floor - Building B - Option 2		56.41	48.81
REC 16-1	Southwest Elevation - 1st Floor - Building B - Option 2		70.38	44.59
REC 16-5	Southwest Elevation – 5th Floor – Building B – Option 2		70.97	63.37
REC 17-1	Southern Elevation - 1st Floor - Building B - Podium - Option 2		59.87	52.28
REC 17-5	Southern Elevation - 5th Floor - Building B - Podium - Option 2		61.86	54.26
REC 18-1	Southwest Elevation - 1st Floor - Building B - Podium - Option 2		56.79	49.20
REC 18-5	Southwest Elevation - 5th Floor - Building B - Podium - Option 2		60.05	51.80
REC 19-1	Southeast Elevation - 1st Floor - Building B - Podium - Option 2		58.49	50.89
REC 19-5	Southeast Elevation - 5th Floor - Building B - Podium - Option 2		60.88	53.28
REC 20-1	Northern Elevation - 1st Floor - Building A - Podium - Option 2		55.85	48.26
REC 20-6	Northern Elevation - 6th Floor - Building A - Podium - Option 2		57.69	50.09
REC 21-1	Northeast Elevation - 1st Floor - Building A - Podium - Option 2		49.79	42.19
REC 21-6	Northeast Elevation - 6th Floor - Building A - Podium - Option 2		53.46	45.86
REC 22	Outdoor Living Area - Option 2	57.17	-	-
REC 22 Rev 1	Outdoor Living Area – Option 2 – Building Orientation Considered	48.96		

Reception Point	Description	OLA (dBA)	Daytime at Facade $L_{eq(16)}$ (dBA)	Nighttime at Facade $L_{eq(8)}$ (dBA)
REC 23	Outdoor Living Area - Option 1	58.11	-	-
REC 23 Rev 1	Outdoor Living Area - Option 1 - Building Orientations Considered	53.77	-	-

Due to limitations within STAMSOM software, additional calculations were performed for receptors located with a horizontal distance of less than 15 m to the edge of the right of way. This calculation was performed using the following formula which is based on the inverse square law.

$$L_2 = L_1 - 20Log_{10}\left(\frac{r_2}{r_1}\right)$$

Where:

L_2: Sound level at distance r_2 (in decibels dBA)

L_1: Sound level at distance r_1 (in decibels dBA)

r_1: Initial distance from source (meters)

r_2: Actual distance from source (meters)

The inverse square law dictates that sound increases proportionally to the square distance from the source. This formula is calculated in free field conditions where there are no obstacles, reflections or atmospheric elements taken into effect. The following table outlines the Receptors where the noise levels were recalculated.

Table 7. Corrected Noise Level Receptor Locations	
Receptor ID	**Horizontal Distance from Edge of ROW**
REC 2-1 / REC 2-6	10 m
REC 3-1 / REC 3-8 / REC 3-19	11 m
REC 9-1 / REC 9-13 / REC 9-25	10 m
REC 15-1 / REC 15-5	8 m
REC 16-1 / REC 16-5	13 m

6.0 Discussion and Recommendations

6.1 Outdoor Living Areas

Three outdoor living areas were analyzed as part of the current study. The outdoor living areas for the first site plan option identified as REC 12 and REC 23 are located to the east of the stacked towns and to the east of building A respectively. The results of the STAMSON modelling indicate that the $L_{eq(16)}$ from all sources will be 58.11 – 60.88 dBA. This value exceeds the 55 dBA limit that was specified in Table 1. The outdoor living area for the second site plan option identified as REC 23 is located at the rear of the subject site. The results of the STAMSON modelling indicate that the $L_{eq(16)}$ from all sources will be 57.17 dBA. This value additionally exceeds the 55 dBA limit that was specified in Table 1.

Further analysis was performed for the three proposed outdoor living areas. The analysis was performed using Table 2.3 of the City of Ottawa Guidelines reference can be made to Figure 1 below. The following recommended methods were considered to reduce the noise levels: It is not possible to provide additional setbacks with the current orientation and size of the proposed buildings, it is not possible to insert noise-insensitive lands between the source and the receptor, using the orientation of the proposed buildings the noise levels were reduced to 54.23 to 48.96 dBA which is below the 55 dBA threshold as specified in Table. Therefore, the outdoor noise levels are considered acceptable as per the City of Ottawa Guidelines. Additionally, Warning Clause Type A should be included in all deeds of sale.

Warning Clause A: "Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."

Table 2.3a: Outdoor Living Space Noise Control Measures for Surface Transportation Noise

Primary Mitigation Measure to achieve required dBA Leq – in order of preference	Secondary Mitigation Measures	
	Landscape plantings and/or non-acoustic fence to obscure noise source	Warning Clauses*
1. Distance setback with soft ground;	Recommended	
1. Insertion of noise insensitive land uses between the source and sensitive receptor		
2. Orientation of buildings to provide sheltered zones in rear yards	Required	Warning clauses necessary and to include: • reference to specific noise mitigation measures in the development, • whether noise is expected to increase in the future and • that there is a need to maintain mitigation.
3. Shared outdoor amenity areas		
4. Earth berms (sound barriers)		
5. Acoustic barriers (acoustic barriers)		

Figure 1. Table 2.3a of the ENCG for the City of Ottawa

6.2 Indoor Living Areas and Ventilation

The results of the STAMSON modelling indicate that the $L_{eq(16)}$ ranges between 41.08 dBA and 73.35 dBA. Some of the values calculated exceed the limit of 55 dBA as specified by the ENCG and therefore warning clauses will be required to be stated on any deeds of sale. The applicable warning clauses are summarized in Table 8 below.

Table 8 - Summary of Warning Clauses – Indoor Living Areas

Building	Elevation	Floor	Applicable Warning Clause	Additional Considerations
Site Plan Option 1				
A	Northeast Northwest Southwest	All	Warning Clause Type D	This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.
	Southern Eastern Northern	All	Warning Clause Type C	This dwelling has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium-density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the municipality and the Ministry of the Environment.
B	All	All	Warning Clause Type D	This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.
Stacked Towns	All	All	Warning Clause Type C	This dwelling has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium-density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the municipality and the Ministry of the Environment.

Site Plan Option 2				
Building	**Elevation**	**Floor**	**Applicable Warning Clause**	**Additional Considerations**
A	Northeast	All	Warning Clause Type D	This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.
	Northwest			
	Southwest			
	Southern	All	Warning Clause Type C	This dwelling has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium-density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the municipality and the Ministry of the Environment.
	Eastern			
	Northern			
B	Northeast	All	Warning Clause Type D	This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.
	Northwest			
	Southwest			
	Southeast	All	Warning Clause Type C	This dwelling has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium-density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the municipality and the Ministry of the Environment.
	Southern			

Various receptors as noted in Building A and Building B exceed the 65 dBA threshold for noise. Therefore, an analysis of the building materials will be required. However, at this time the building materials and exterior wall construction details have not been finalized. Therefore, a review of the proposed building materials will need to be completed once these details are available.

Proposed Construction Specifications

It is understood that typical window and wall details are proposed for the residential buildings. The effectiveness of the noise insulation can be expressed as the Acoustical Insulation Factor (AIF), calculated as follows:

$$\boldsymbol{AIF = L_{eq(16)(Exterior)} - L_{eq(16)(Interior)} + 10Log_{10}(N) + 2dBA}$$

Where:

$\boldsymbol{L_{eq(16)(Exterior)}}$: Calculated value at the windowpane

$\boldsymbol{L_{eq(16)(Interior)}}$: Equals 45 dBA

$\boldsymbol{N}$: Number of components in the room

No floor plans or detailed design drawings were provided at the time of preparing the current study. A conservative approach was used assuming 2 components per room. Therefore, the AIF would need to be at least **33 dBA**.

A conversion from AIF to a Standard Transmission Class (STC) rating will require knowledge of room dimensions in addition to the wall and window dimensions. However, as this information was not available a conservative approach was used which included increasing the AIF factor by 3. **Therefore, provided the building materials for either the windows and/or exterior walls have an STC rating of 36 or higher, this would be considered a sufficient noise attenuation device.**

7.0 Summary of Findings

The subject site is located at 5872, 5880 to 5884 Hazeldean Road and 7 Savage Drive in the City of Ottawa. It is understood that the proposed residential development currently has two site plan options. The first will consist of three multi-storey residential buildings (denoted as Building A, Building B and Stacked Towns) and the second option will consist of two multi-storey residential buildings (denoted as Building A and Building B). The associated analysis identified one surface transportation noise source: Hazeldean Road.

For the first site plan option, the northeast, northwest and southwest elevations for Building A exceeded the 65 dBA threshold as specified by the ENCG and will require Warning Clause Type D. Additionally for Building A, the southern, eastern and northern elevations exceeded the 55 dBA threshold and will require Warning Clause Type C. All elevations for Building B exceeded the 65 dBA threshold and will require Warning Clause Type D. The stacked townhouse units for the first site plan option also exceeded the 55 dBA threshold as specified by the ENCG and will require Warning Clause Type C.

For the second site plan option, the northeast, northwest and southwest elevations for Building A exceeded the 65 dBA threshold as specified by the ENCG and will require Warning Clause Type D. Additionally for Building A, the southern, eastern and northern elevations exceeded the 55 dBA threshold and will require Warning Clause Type C. For Building B the northeast, northwest and southwest elevations exceeded the 65 dBA threshold as specified by the ENCG and will require Warning Clause Type D. Additionally for Building B the southeast and southern elevations exceeded the 55 dBA threshold and will require Warning Clause Type C.

A review of building materials was completed as part of this analysis for all elevations exceeding 65 dBA. The building materials of the windows and/or exterior walls will require an STC rating of 36 or higher. Reference can be made to the building material industry standards standard in Appendix 3.

All warning clauses are reiterated below and are to be included on all Offers of Purchase and Sale:

Warning Clause Type C: "This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium-density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

Warning Clause Type D: "This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

Analysis of the outdoor living areas was performed for both site plan options consisting of three at-grade outdoor living areas; denoted as REC 12, REC 22 and REC 23. All three outdoor living areas exceeded the 55 dBA threshold as specified by the ENCG.

An additional analysis was performed using the orientation of the proposed buildings for the outdoor living areas as per Table 2.3a of the ENCG. The results were found to be below the 55 dBA threshold. Therefore, the outdoor noise levels are considered acceptable. Additionally, Warning Clause Type A should be included in all deeds of sale.

All warning clauses are reiterated below and are to be included on all Offers of Purchase and Sale:

Warning Clause Type A: “Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.”

8.0 Statement of Limitations

The recommendations made in this report are in accordance with our present understanding of the project. Our recommendations should be reviewed when the project drawings and specifications are complete.

The present report applies only to the project described in this document. Use of this report for purposes other than those described herein or by person(s) other than Hazeldean Heights Inc. or their agent(s) is not authorized without review by this firm for the applicability of our recommendations to the altered use of the report.

Paterson Group Inc.

Otillia McLaughlin, B.Eng. Stephanie A. Boisvenue, P.Eng.

Report Distribution:

- ❑ Hazeldean Heights Inc.
- ❑ Paterson Group

APPENDIX 1

TABLE 9 – SUMMARY OF RECEPTION POINTS AND GEOMETRY
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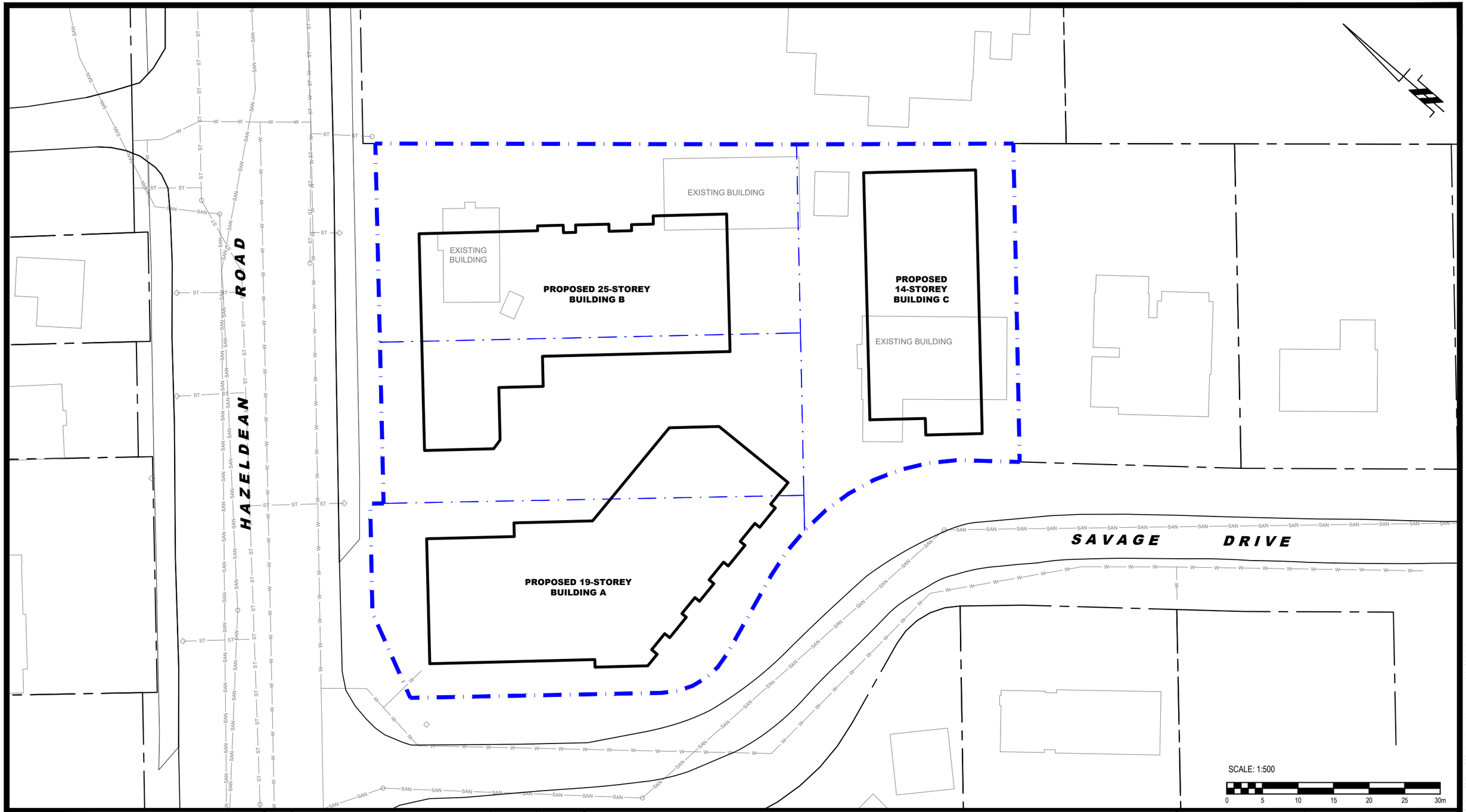
DRAWING PG7398-3G-SITE GEOMETRY (REC 7-1 AND REC 7-6)
DRAWING PG7398-4-SITE GEOMETRY (BUILDING B)
DRAWING PG7398-4A-SITE GEOMETRY (REC 8-1, REC 8-13 AND REC 8-25)
DRAWING PG7398-4B-SITE GEOMETRY (REC 9-1, REC 9-13 AND REC 2-25)
DRAWING PG7398-4C-SITE GEOMETRY (REC 10-1, REC 10-13 AND REC 10-25)
DRAWING PG7398-5-SITE GEOMETRY (STACKED TOWNS)
DRAWING PG7398-5A-SITE GEOMETRY (REC 11-1 AND REC 11-4)
DRAWING PG7398-5B - SITE GEOMETRY (REC 13-1 AND REC 13-4)
DRAWING PG7398-5C-SITE GEOMETRY (REC 14-1 AND REC 14-4)
DRAWING PG7398-6-SITE GEOMETRY (OUTDOOR LIVING AREAS – OPTION 1)
DRAWING PG7398-6A-SITE GEOMETRY (REC 12)
DRAWING PG7398-6B-SITE GEOMETRY (REC 12 REV.01)
DRAWING PG7398-7-SITE PLAN (OPTION 2)
DRAWING PG7398-8- RECEPTOR LOCATION PLAN (OPTION 2)
DRAWING PG7398-9-SITE GEOMETRY BUILDING B (OPTION 2)
DRAWING PG7398-9A-SITE GEOMETRY (REC15-1 AND REC15-5)
DRAWING PG7398-9B-SITE GEOMETRY (REC16-1 AND REC16-5)
DRAWING PG7398-9C-SITE GEOMETRY (REC 17-1 AND REC 17-5)
DRAWING PG7398-9D-SITE GEOMETRY (REC 18-1 AND REC 18-5)
DRAWING PG7398-9E-SITE GEOMETRY (REC 19-1 AND REC19-5)
DRAWING PG7398-10-SITE GEOMETRY BUILDING A (OPTION 2)
DRAWING PG7398-10A-SITE GEOMETRY (REC 20-1 AND REC 20-6)
DRAWING PG7398-10B-SITE GEOMETRY (REC 21-1 AND REC 21-6)
DRAWING PG7398-11-SITE GEOMETRY (OUTDOOR LIVING AREA – OPTION 2)
DRAWING PG7398-11A-SITE GEOMETRY (REC 22)
DRAWING PG7398-11B-SITE GEOMETRY (REC 22 REV.01)
DRAWING PG7398-12-SITE GEOMETRY (OUTDOOR LIVING AREA - OPTION 1)
DRAWING PG7398-12A-SITE GEOMETRY (REC 23)
DRAWING PG7398-12B-SITE GEOMETRY (REC 23 REV.01)



PATERSON GROUP
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OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE PLAN

Scale: 1:500	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-1
Approved by: SB	Revision No.:

11x17

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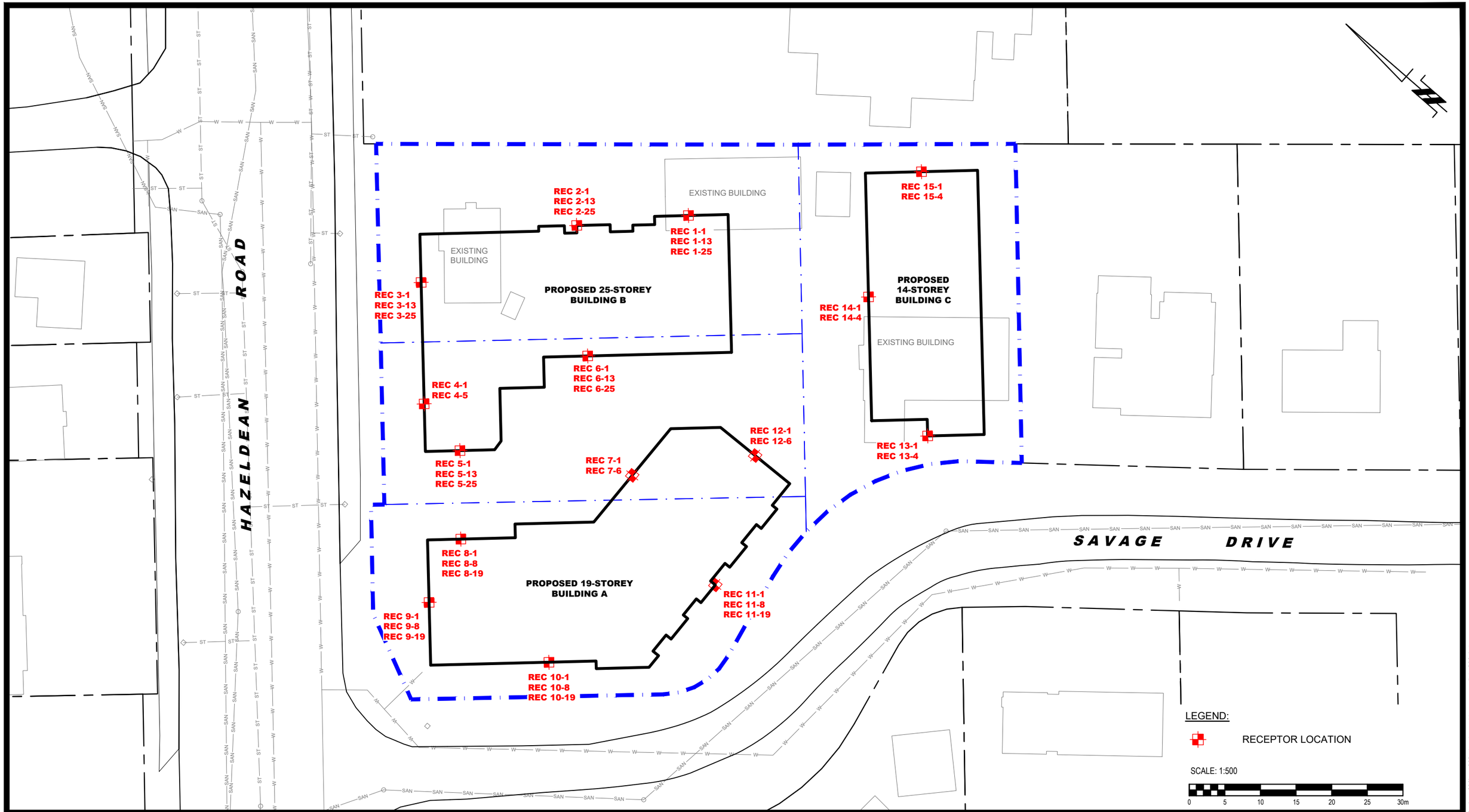

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5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

RECEPTOR LOCATION PLAN

Scale: 1:500	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-2
Approved by: SB	Revision No.:

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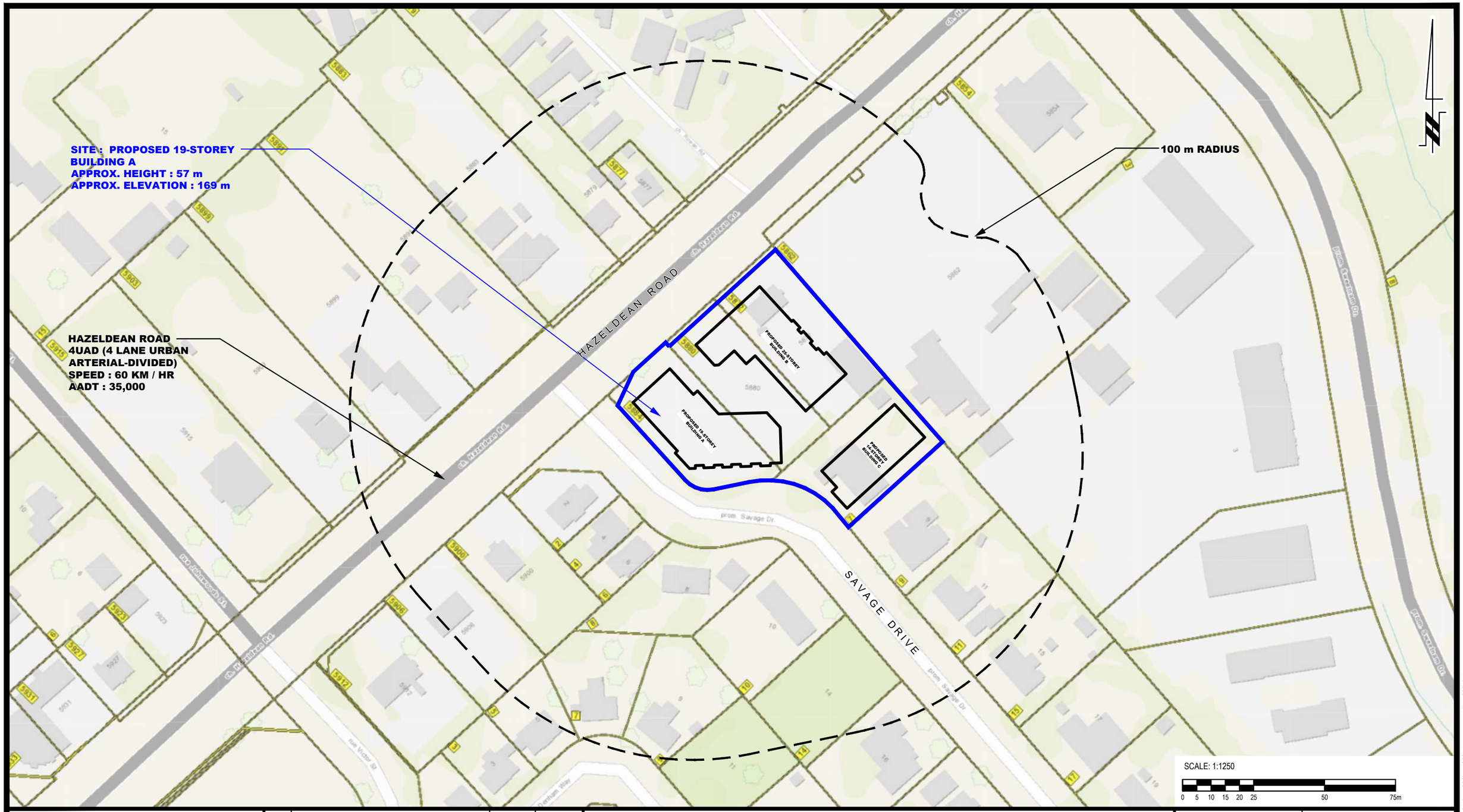

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PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:
SITE GEOMETRY - BUILDING A

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3
Approved by: SB	Revision No.:

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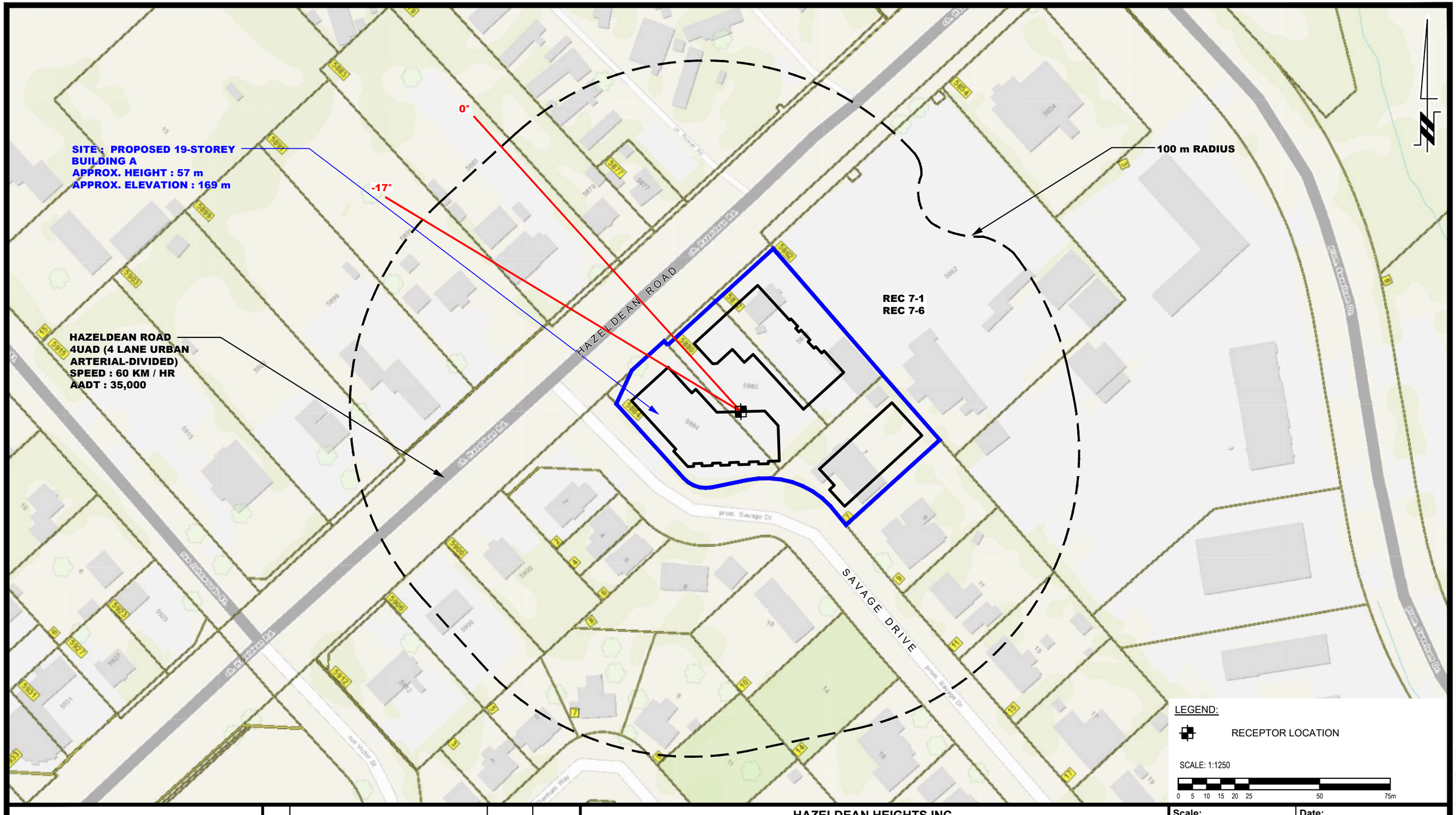

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NO.	REVISIONS	DATE	INITIAL

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PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:
SITE GEOMETRY - REC 7-1 AND REC 7-6

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3A
Approved by: SB	Revision No.:

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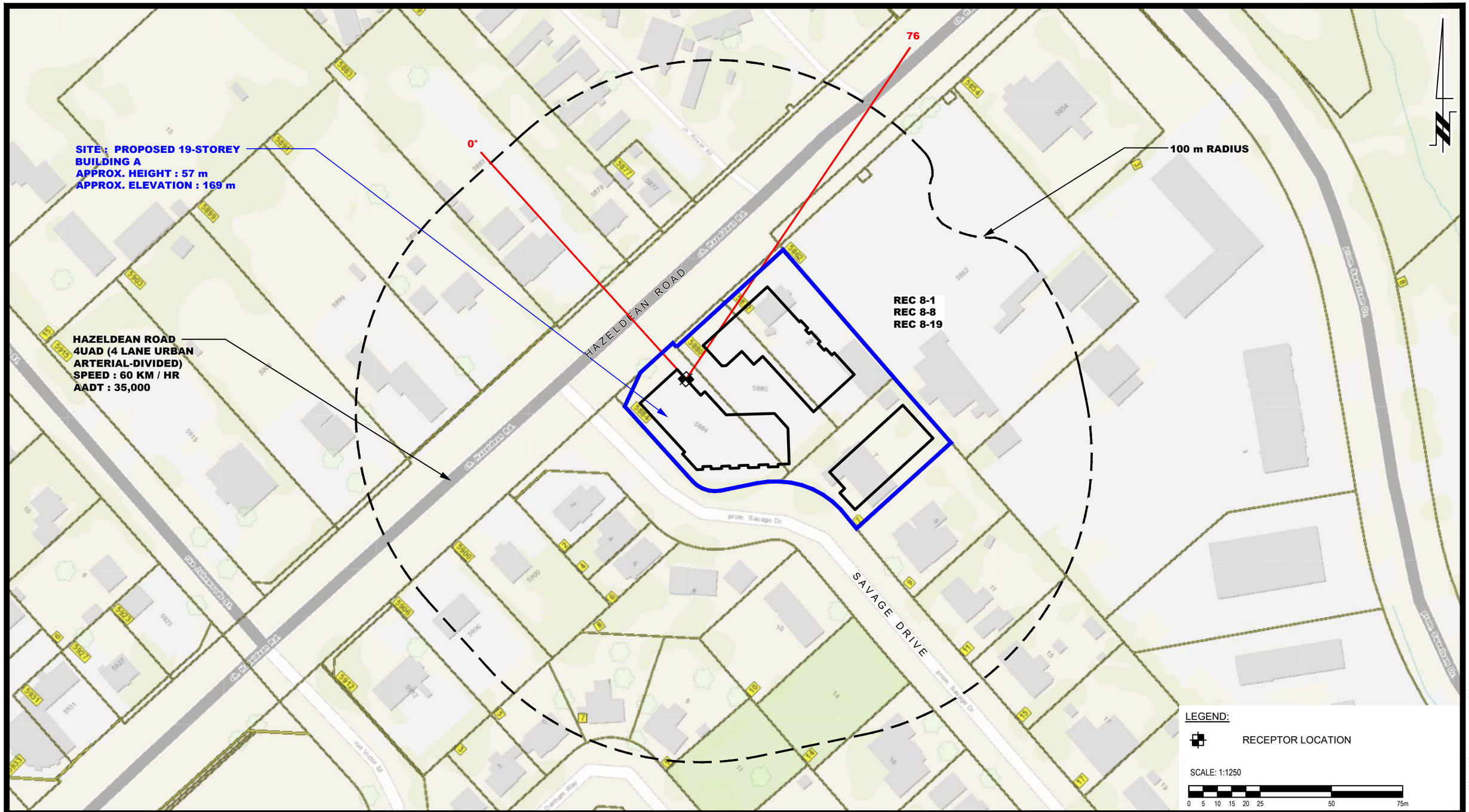

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NO.	REVISIONS	DATE	INITIAL

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NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 8-1, REC 8-8, REC 8-19

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3B
Approved by: SB	Revision No.:

11x17

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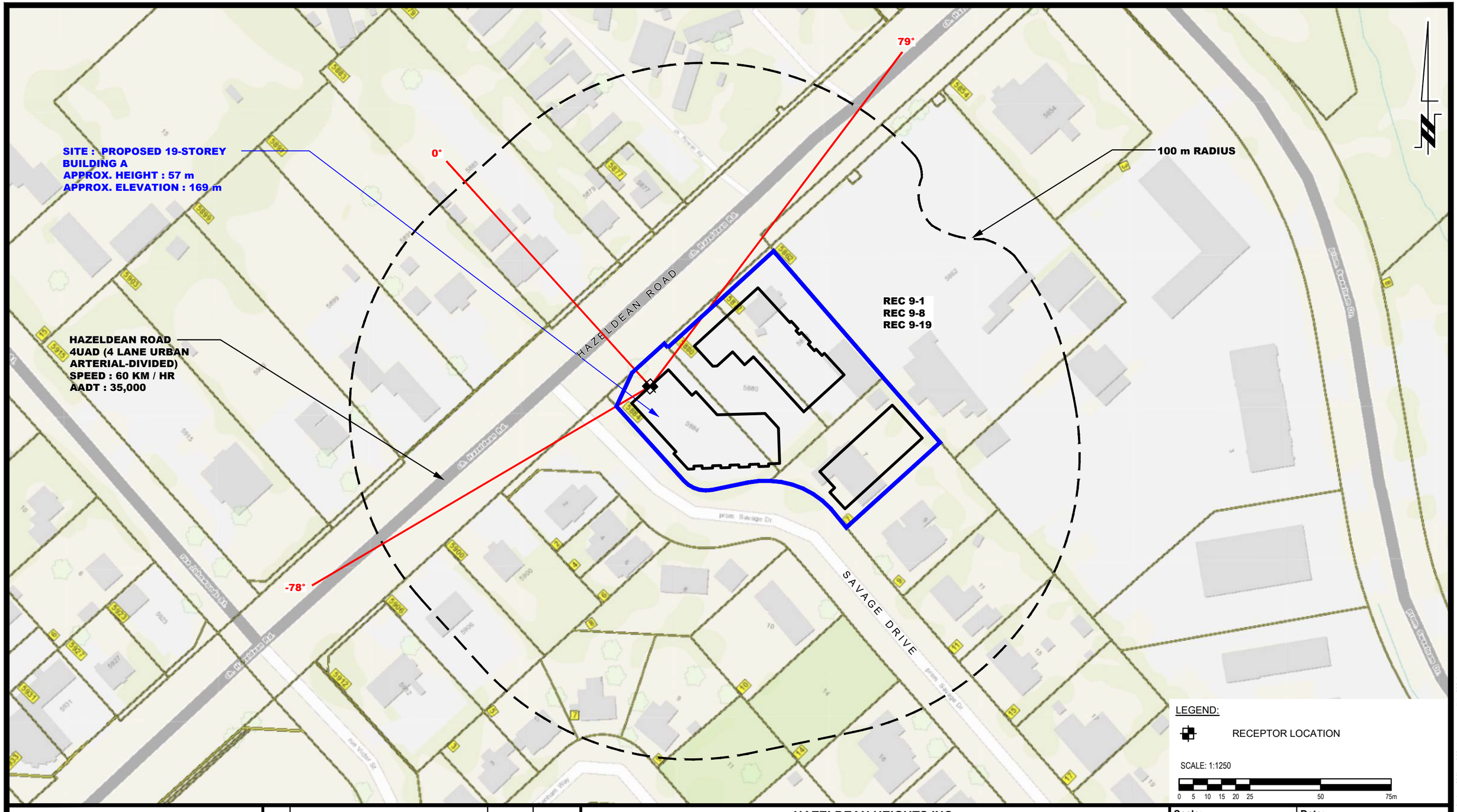

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.
NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:
SITE GEOMETRY - REC 9-1, REC 9-8, REC 9-19

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3C
Approved by: SB	Revision No.:

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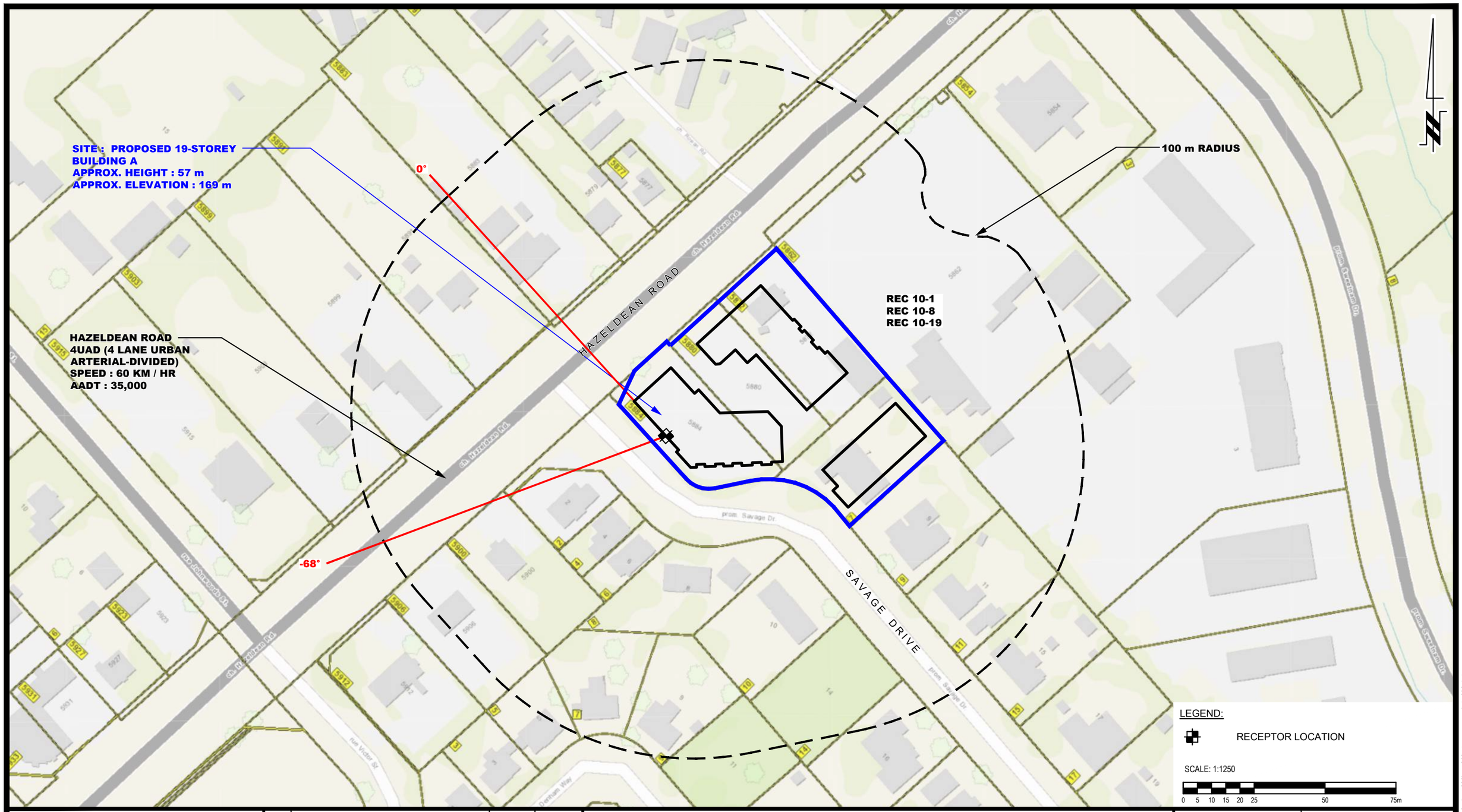

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NO.	REVISIONS	DATE	INITIAL

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OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 10-1, REC 10-8, REC 10-19

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3D
Approved by: SB	Revision No.:

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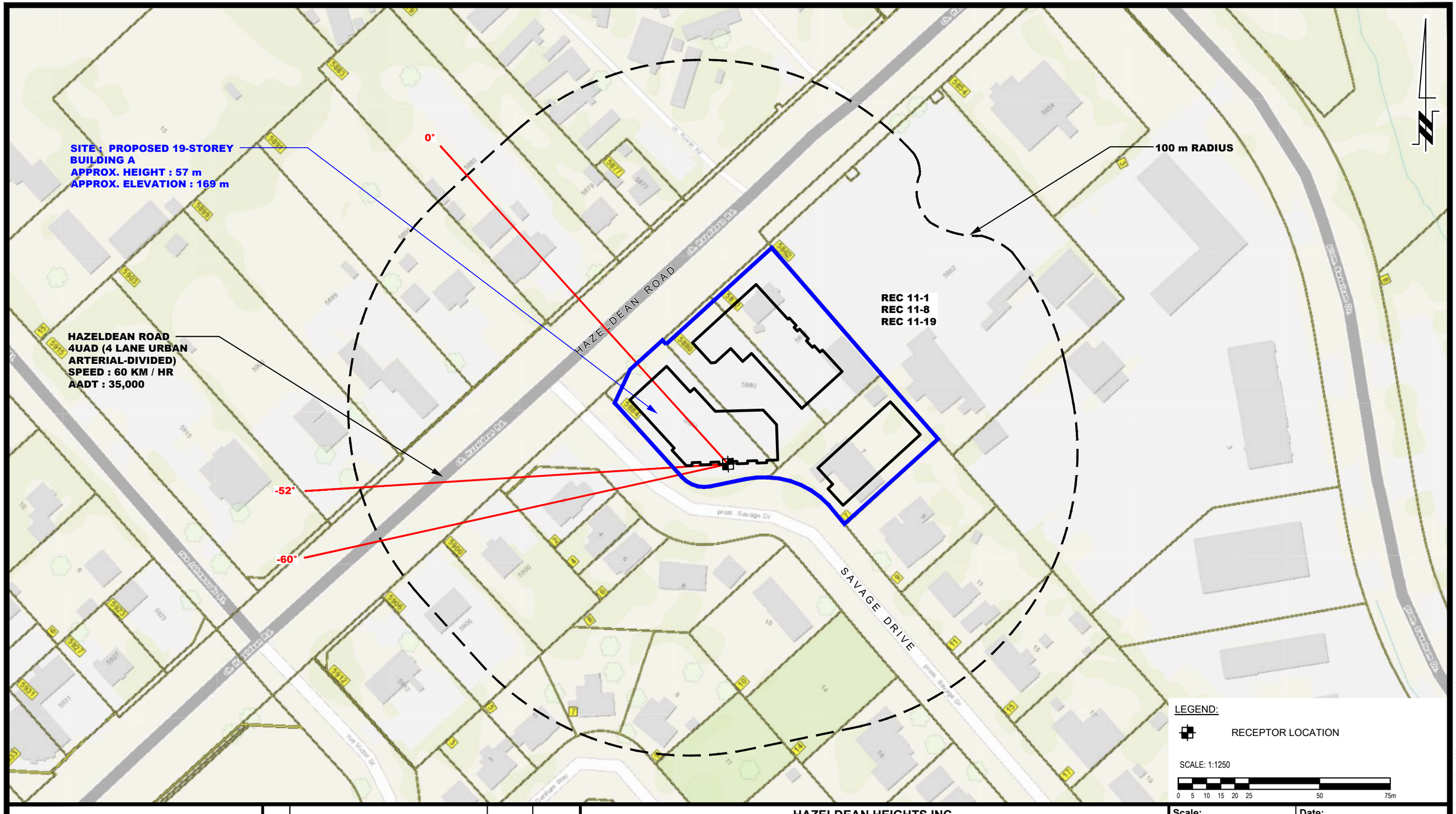

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NO.	REVISIONS	DATE	INITIAL

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NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 11-1, REC 11-8, REC 11-19

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3E
Approved by: SB	Revision No.:

11x17

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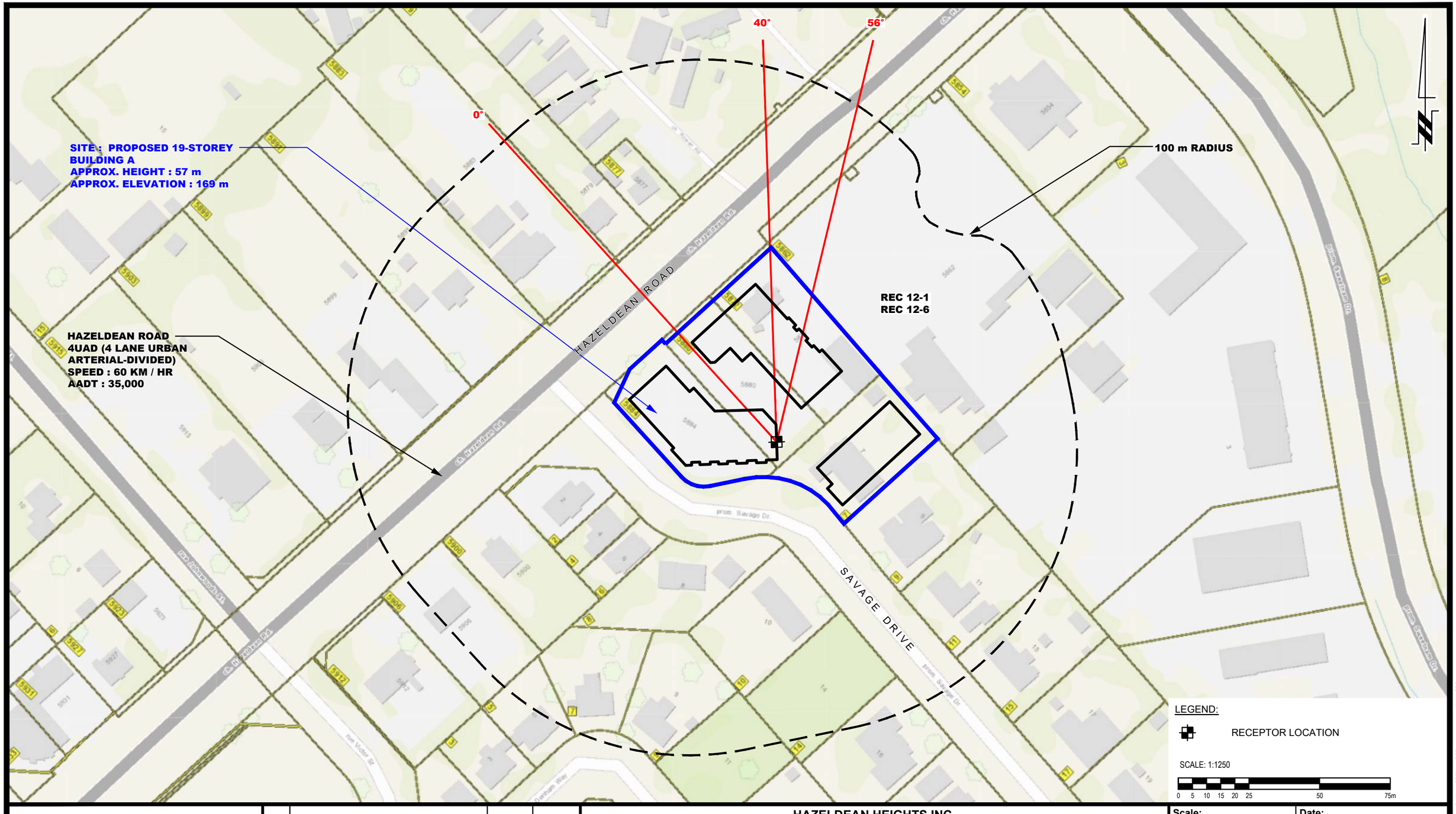

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NO.	REVISIONS	DATE	INITIAL

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PROPOSED RESIDENTIAL DEVELOPMENT
OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:
SITE GEOMETRY - REC 12-1 AND REC 12-6

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-3F
Approved by: SB	Revision No.:

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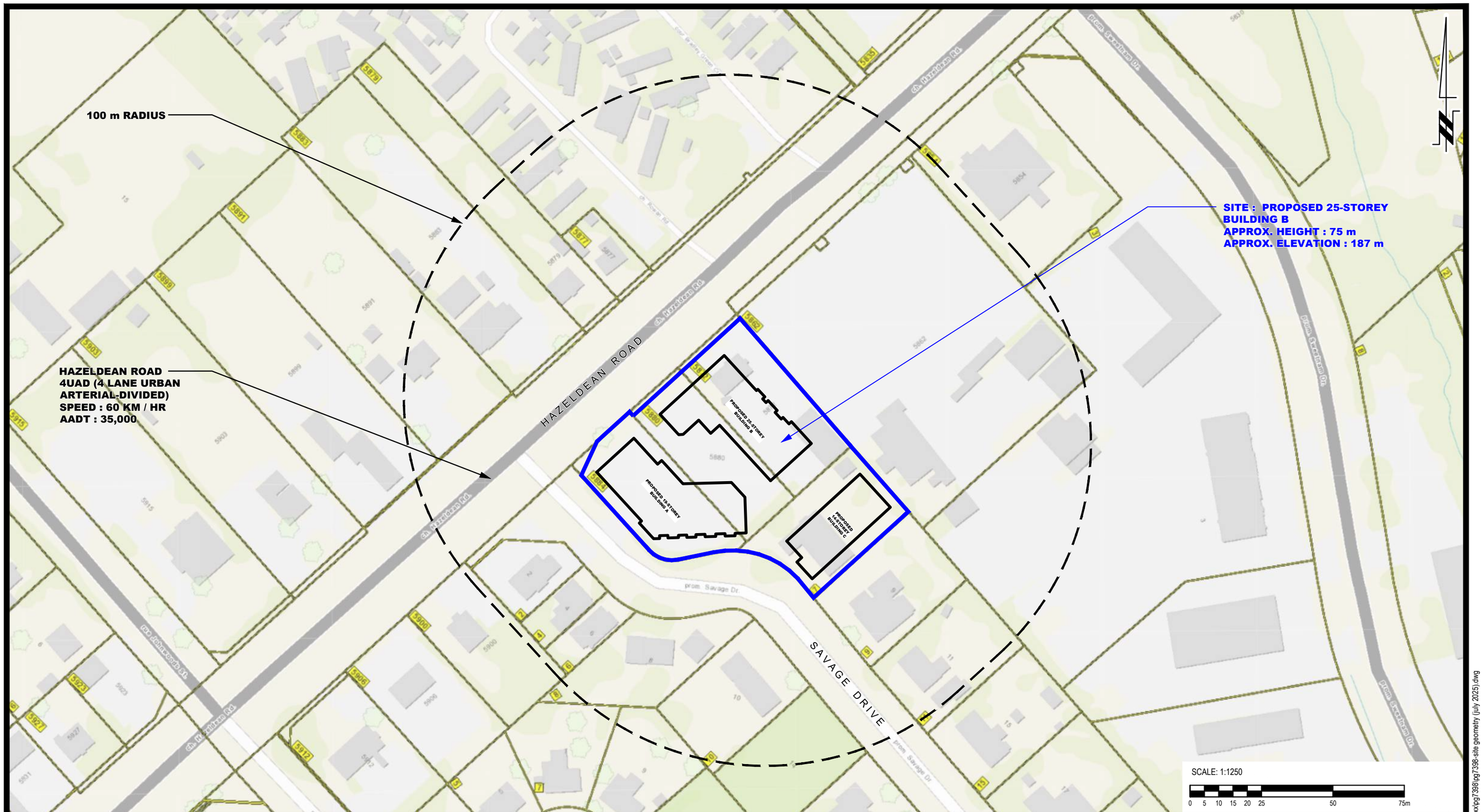

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NO.	REVISIONS	DATE	INITIAL

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OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:
SITE GEOMETRY - BUILDING B

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-4
Approved by: SB	Revision No.:

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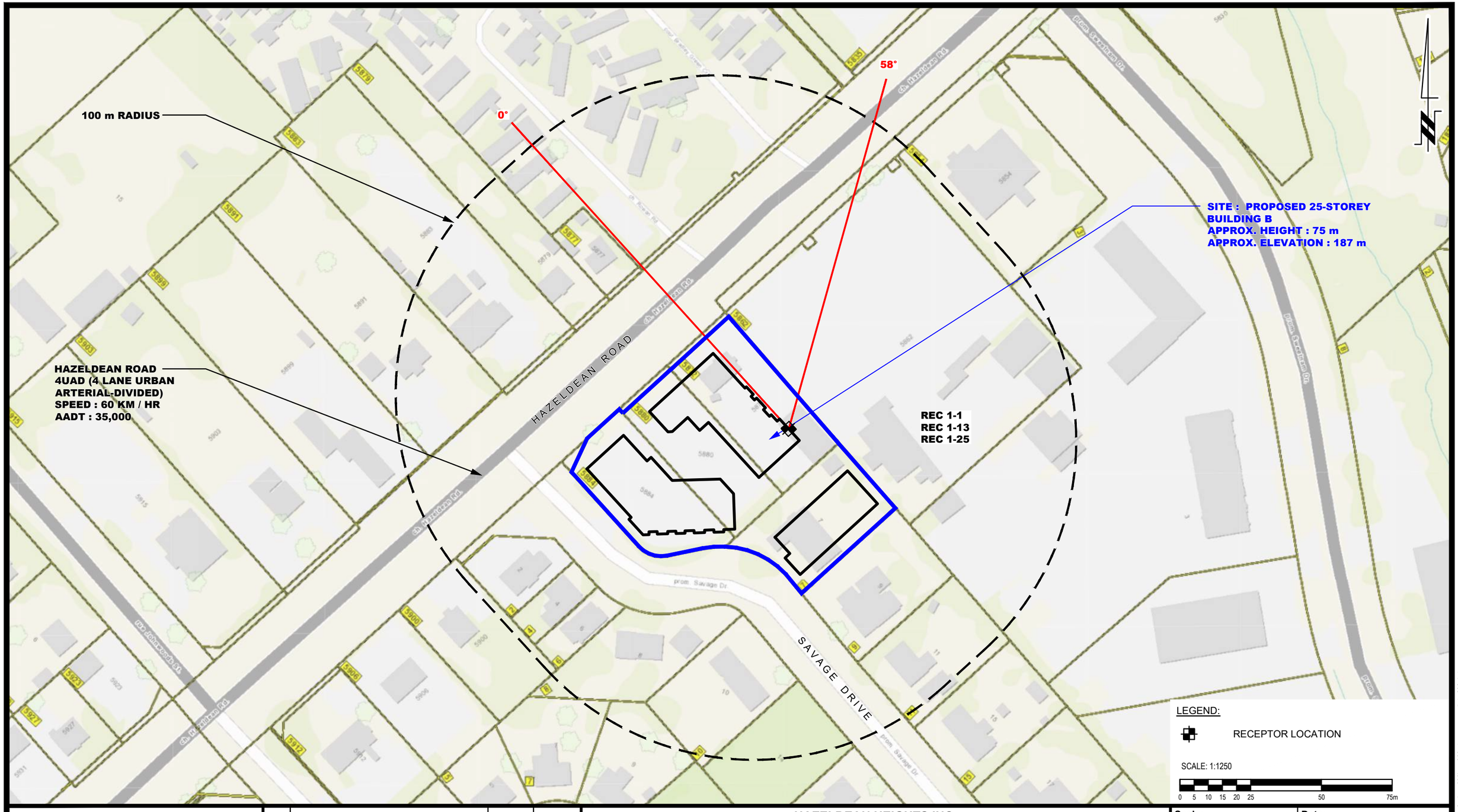

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 1-1, REC 1-13, REC 1-25

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-4A
Approved by: SB	Revision No.:

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11x17

100 m RADIUS

HAZELDEAN ROAD
4UAD (4 LANE URBAN ARTERIAL-DIVIDED)
SPEED : 60 KM / HR
AADT : 35,000

0°

65°

-69°

SITE : PROPOSED 25-STOREY BUILDING B
APPROX. HEIGHT : 75 m
APPROX. ELEVATION : 187 m

REC 2-1
REC 2-13
REC 2-25

HAZELDEAN ROAD

SAVAGE DRIVE

LEGEND:

RECEPTOR LOCATION

SCALE: 1:1250

0 5 10 15 20 25 50 75m

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OTTAWA, ON
K2E 7T9
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HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT

OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:

SITE GEOMETRY - REC 2-1, REC 2-13, REC 2-25

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-4B
Approved by: SB	Revision No.:

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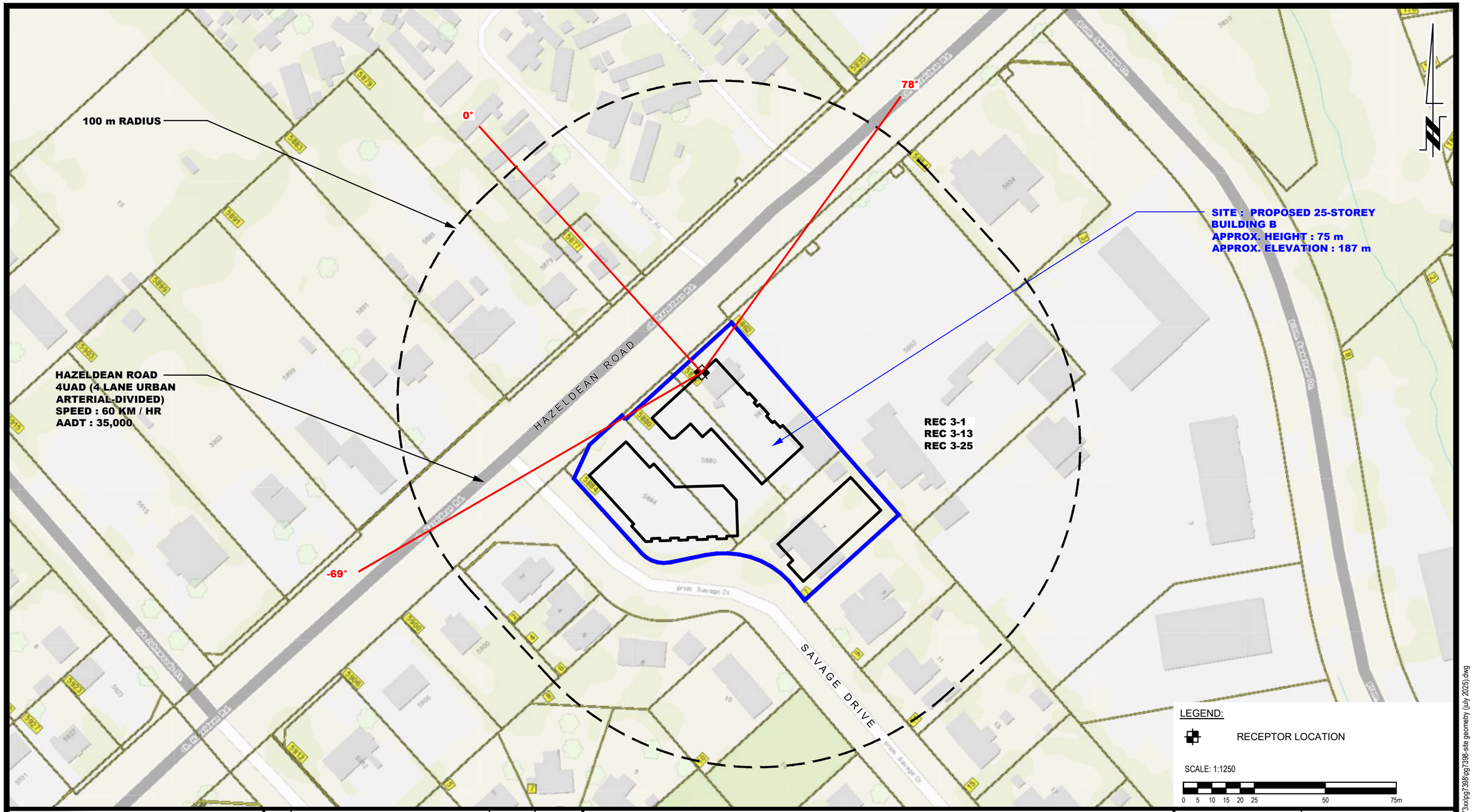

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 3-1, REC 3-13, REC 3-25

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-4C
Approved by: SB	Revision No.:

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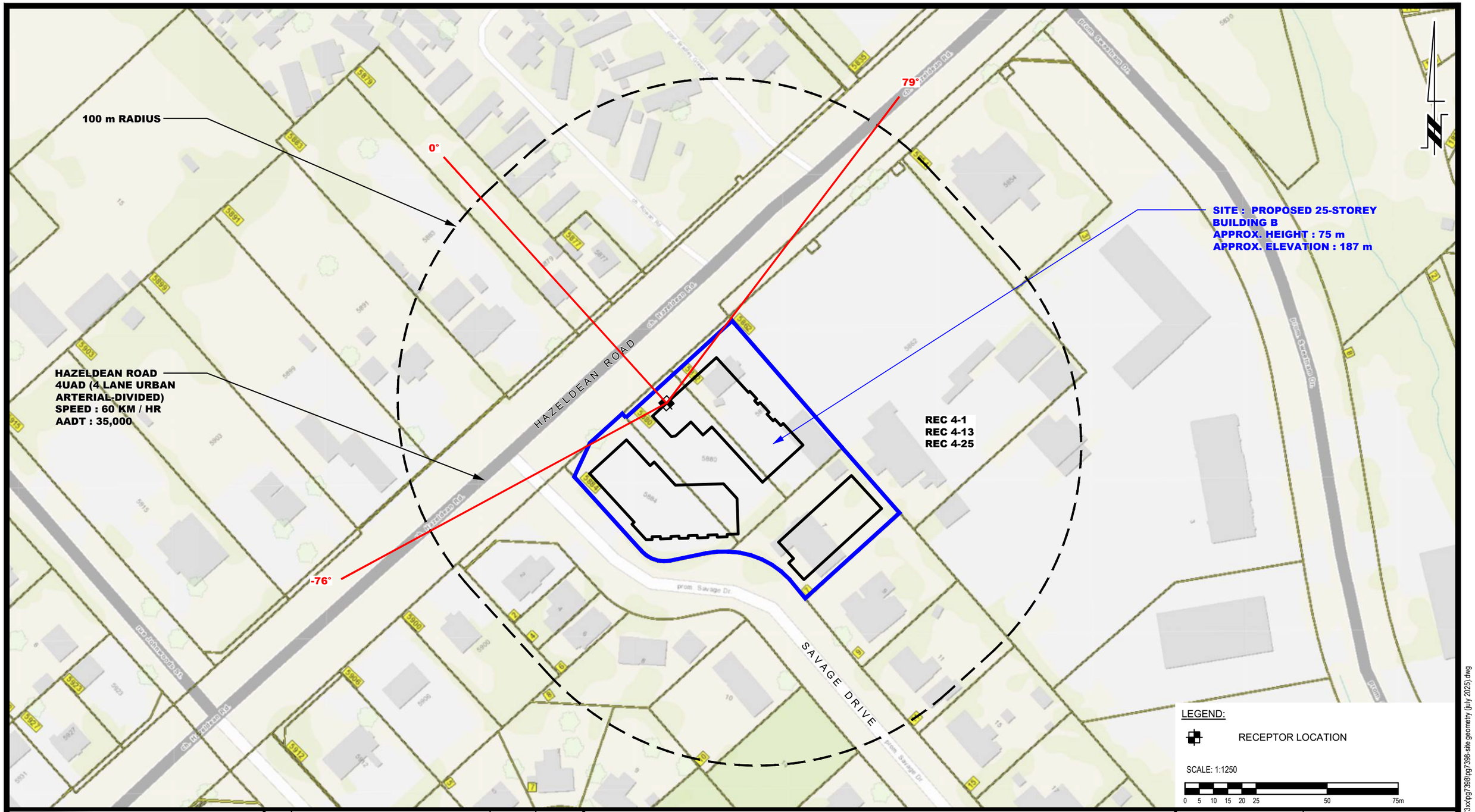

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT

OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:

SITE GEOMETRY - REC 4-1, REC 4-13, REC 4-25

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-4D
Approved by: SB	Revision No.:

11x17

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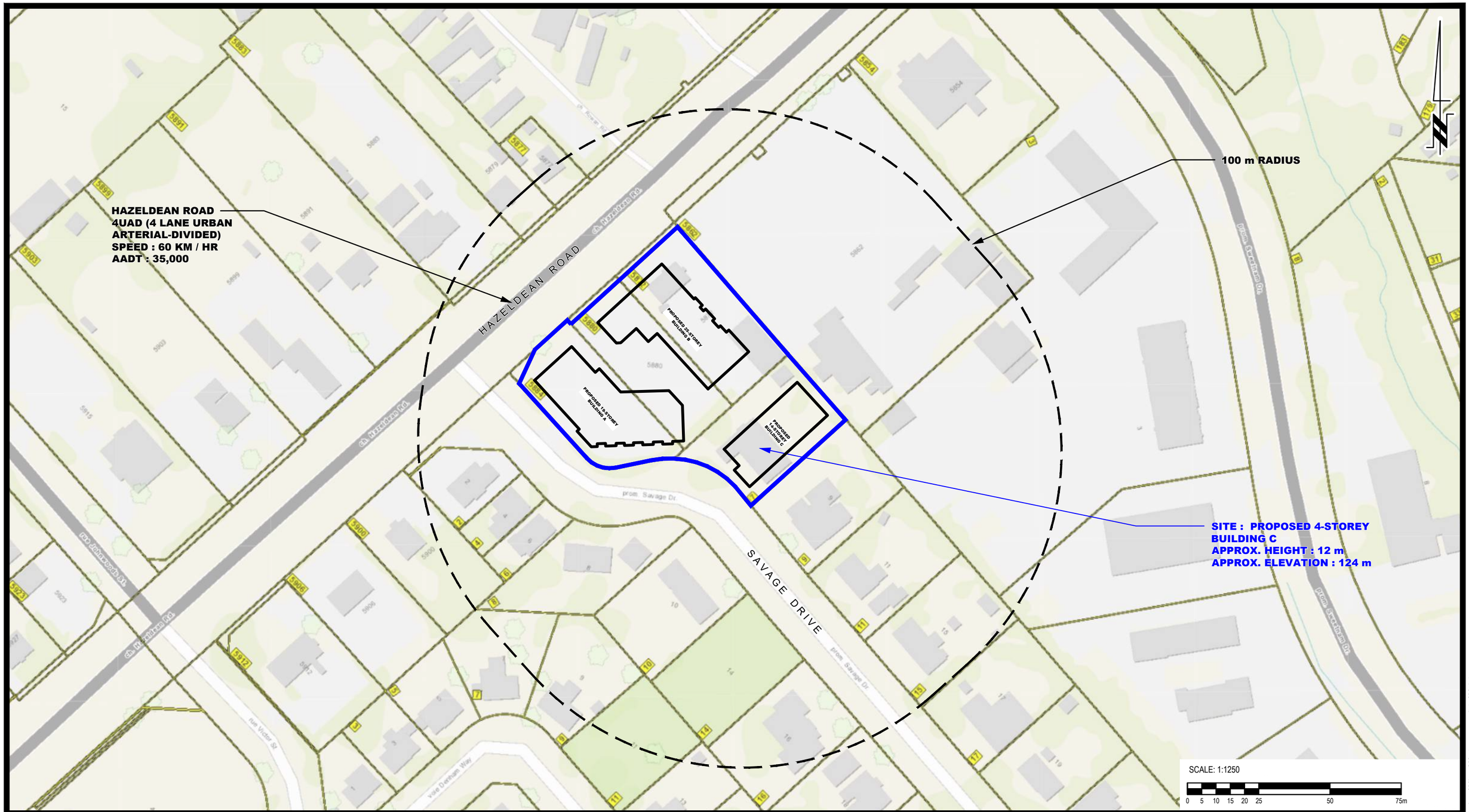

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY

PROPOSED RESIDENTIAL DEVELOPMENT

OTTAWA, 5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE ONTARIO

Title:

SITE GEOMETRY - BUILDING C

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-5
Approved by: SB	Revision No.:

11x17

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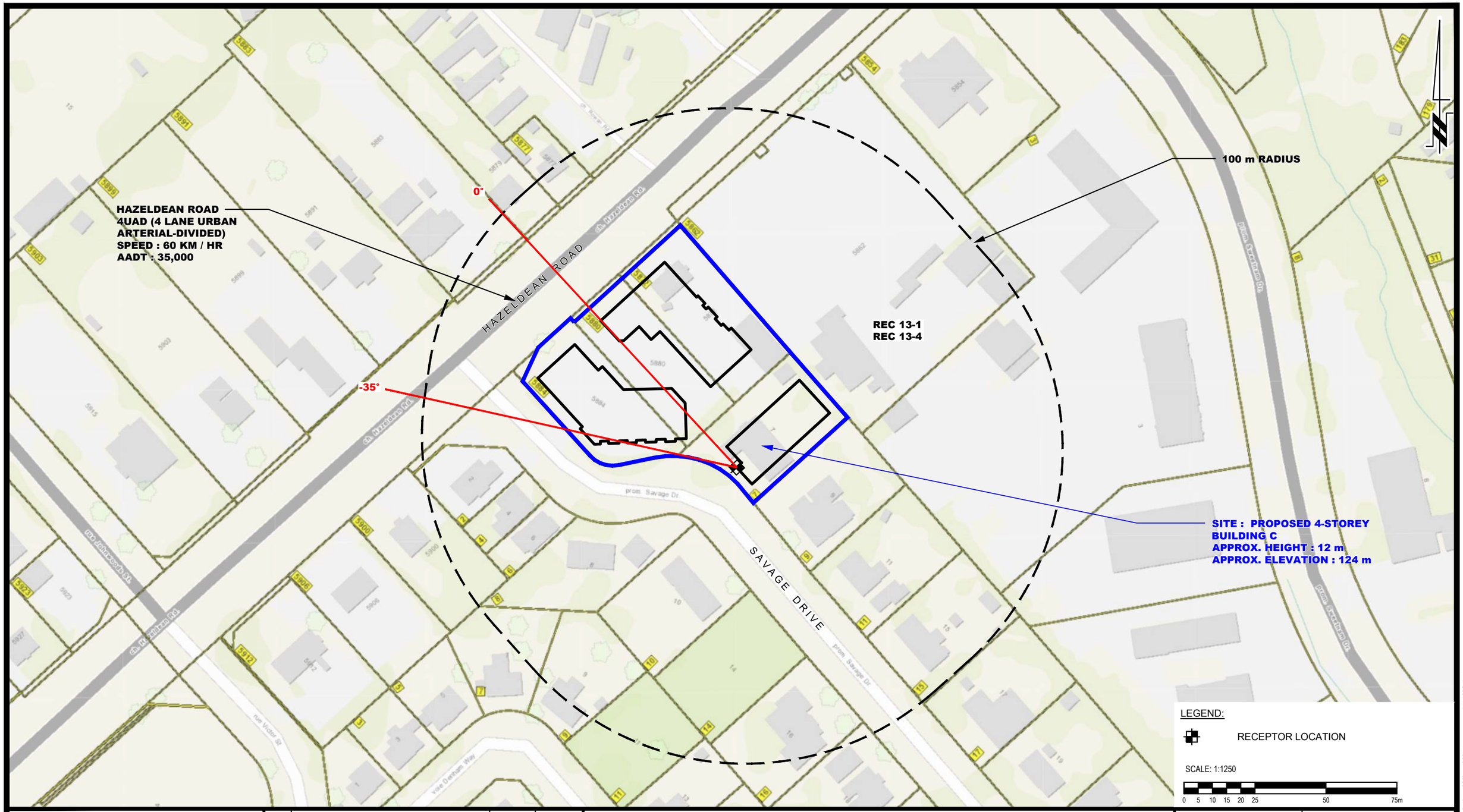

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 13-1 AND REC 13-4

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-5A
Approved by: SB	Revision No.:

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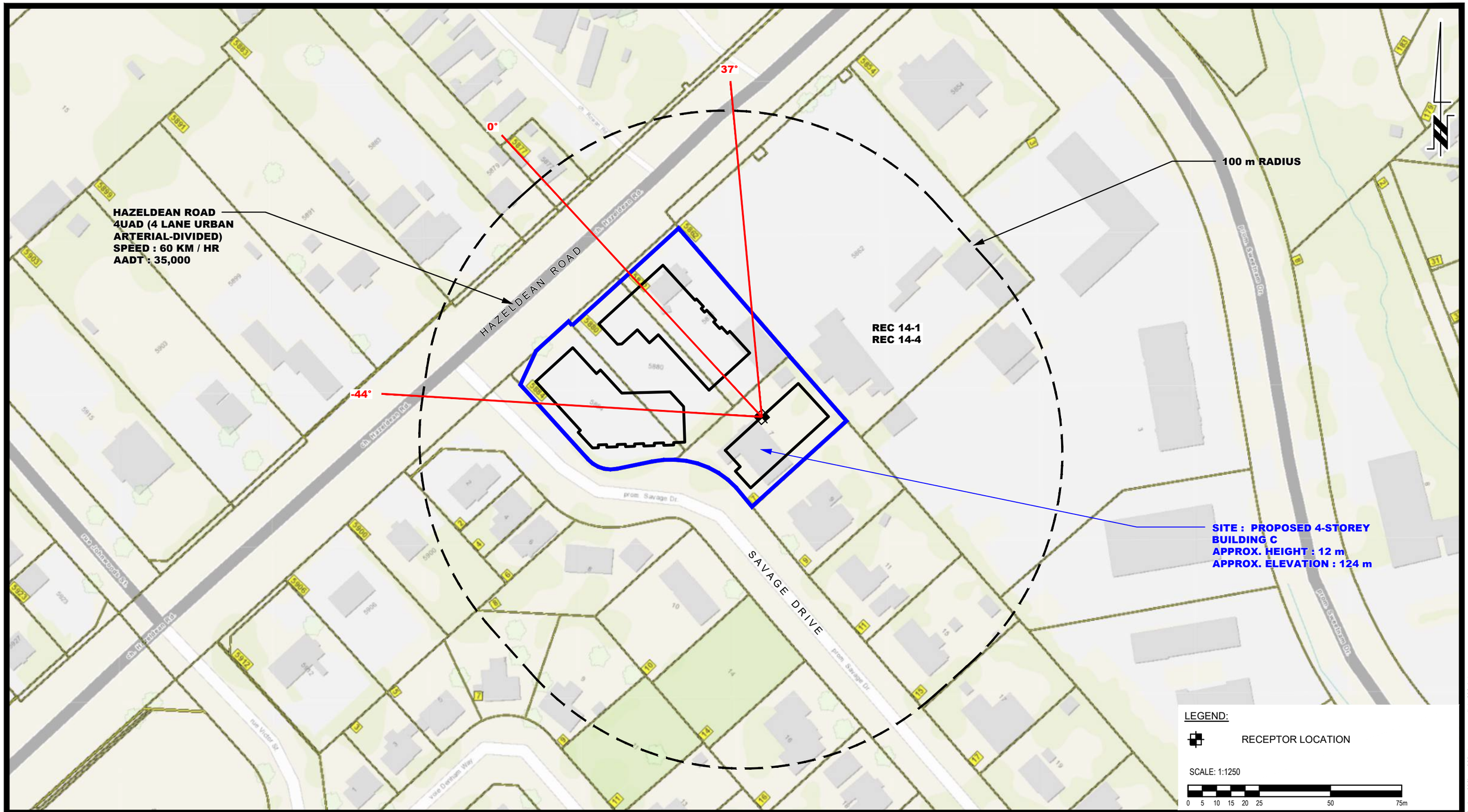

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY

PROPOSED RESIDENTIAL DEVELOPMENT

5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 14-1 AND REC 14-4

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-5B
Approved by: SB	Revision No.:

11x17

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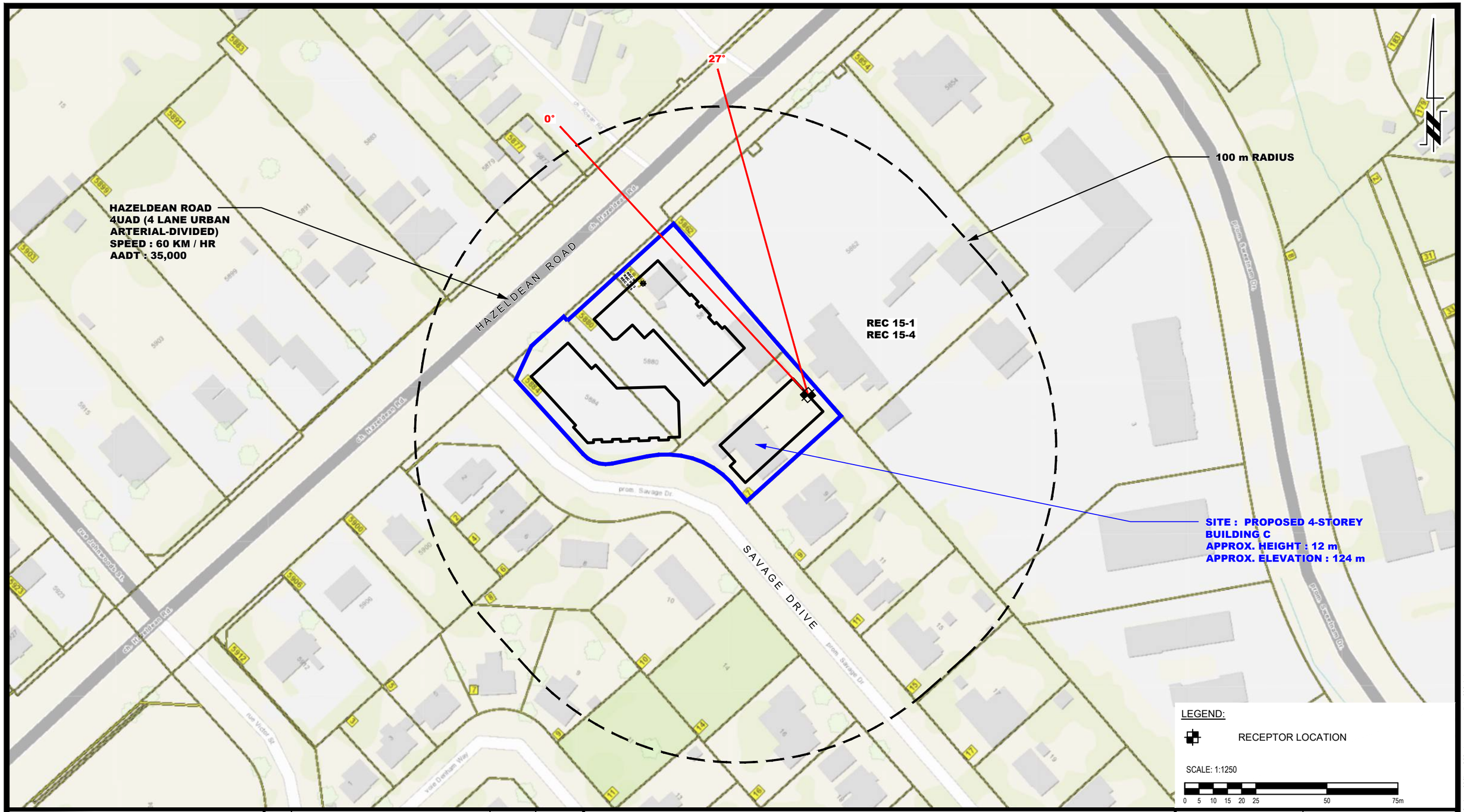

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NO.	REVISIONS	DATE	INITIAL

HAZELDEAN HEIGHTS INC.

NOISE ATTENUATION STUDY

PROPOSED RESIDENTIAL DEVELOPMENT

5872, 5880, 5884 HAZELDEAN ROAD & 7 SAVAGE DRIVE

OTTAWA, ONTARIO

Title:

SITE GEOMETRY - REC 15-1 AND REC 15-4

Scale: 1:1250	Date: 09/2025
Drawn by: YA	Report No.: PG7398-1
Checked by: OM	Dwg. No.: PG7398-5C
Approved by: SB	Revision No.:

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APPENDIX 2

STAMSON RESULTS

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 15:58:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC11.te Time Period: Day/Night 16/8 hours
Description: REC 1-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 77.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 18.00 / 18.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 67.69 + 0.00) = 67.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	77	0.66	73.68	0.00	-1.31	-4.67	0.00	0.00	0.00	67.69

Segment Leq : 67.69 dBA

Total Leq All Segments: 67.69 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 60.09 + 0.00) = 60.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	77	0.66	66.08	0.00	-1.31	-4.67	0.00	0.00	0.00	60.09

Segment Leq : 60.09 dBA

Total Leq All Segments: 60.09 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 67.69
(NIGHT): 60.09
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:00:34
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec16.te Time Period: Day/Night 16/8 hours
Description: REC 1-6 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 77.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 18.00 / 18.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 68.69 + 0.00) = 68.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	77	0.21	73.68	0.00	-0.96	-4.03	0.00	0.00	0.00	68.69

Segment Leq : 68.69 dBA

Total Leq All Segments: 68.69 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 61.09 + 0.00) = 61.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	77	0.21	66.08	0.00	-0.96	-4.03	0.00	0.00	0.00	61.09

Segment Leq : 61.09 dBA

Total Leq All Segments: 61.09 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 68.69
(NIGHT): 61.09
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:02:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec21.te Time Period: Day/Night 16/8 hours
Description: REC 2-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -86.00 deg 81.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 72.15 + 0.00) = 72.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	81	0.66	73.68	0.00	0.00	-1.53	0.00	0.00	0.00	72.15

Segment Leq : 72.15 dBA

Total Leq All Segments: 72.15 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 64.55 + 0.00) = 64.55 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	81	0.66	66.08	0.00	0.00	-1.53	0.00	0.00	0.00	64.55

Segment Leq : 64.55 dBA

Total Leq All Segments: 64.55 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 72.15
(NIGHT): 64.55
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:05:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec26.te Time Period: Day/Night 16/8 hours
Description: REC 2-6 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -86.00 deg 81.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 72.92 + 0.00) = 72.92 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	81	0.21	73.68	0.00	0.00	-0.76	0.00	0.00	0.00	72.92

Segment Leq : 72.92 dBA

Total Leq All Segments: 72.92 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 65.32 + 0.00) = 65.32 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-86	81	0.21	66.08	0.00	0.00	-0.76	0.00	0.00	0.00	65.32

Segment Leq : 65.32 dBA

Total Leq All Segments: 65.32 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 72.92
(NIGHT): 65.32
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:06:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec31.te Time Period: Day/Night 16/8 hours
Description: REC 3-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -85.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 72.15 + 0.00) = 72.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.66	73.68	0.00	0.00	-1.52	0.00	0.00	0.00	72.15

Segment Leq : 72.15 dBA

Total Leq All Segments: 72.15 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 64.56 + 0.00) = 64.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.66	66.08	0.00	0.00	-1.52	0.00	0.00	0.00	64.56

Segment Leq : 64.56 dBA

Total Leq All Segments: 64.56 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 72.15
(NIGHT): 64.56
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:09:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec38.te Time Period: Day/Night 16/8 hours
Description: REC 3-8 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -85.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 22.50 / 22.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 73.29 + 0.00) = 73.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.03	73.68	0.00	0.00	-0.39	0.00	0.00	0.00	73.29

Segment Leq : 73.29 dBA

Total Leq All Segments: 73.29 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 65.69 + 0.00) = 65.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.03	66.08	0.00	0.00	-0.39	0.00	0.00	0.00	65.69

Segment Leq : 65.69 dBA

Total Leq All Segments: 65.69 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 73.29
(NIGHT): 65.69

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:14:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec319.te Time Period: Day/Night 16/8 hours
Description: REC 3-19 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -85.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 55.50 / 55.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 73.35 + 0.00) = 73.35 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.00	73.68	0.00	0.00	-0.33	0.00	0.00	0.00	73.35

Segment Leq : 73.35 dBA

Total Leq All Segments: 73.35 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 65.75 + 0.00) = 65.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.00	66.08	0.00	0.00	-0.33	0.00	0.00	0.00	65.75

Segment Leq : 65.75 dBA

Total Leq All Segments: 65.75 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 73.35
(NIGHT): 65.75

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:25:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC41.te Time Period: Day/Night 16/8 hours
Description: REC 4-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -75.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 / 26.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 64.98 + 0.00) = 64.98 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.66	73.68	0.00	-3.97	-4.73	0.00	0.00	0.00	64.98

Segment Leq : 64.98 dBA

Total Leq All Segments: 64.98 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 57.39 + 0.00) = 57.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.66	66.08	0.00	-3.97	-4.73	0.00	0.00	0.00	57.39

Segment Leq : 57.39 dBA

Total Leq All Segments: 57.39 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 64.98
(NIGHT): 57.39
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 14-01-2025 16:26:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec48.te Time Period: Day/Night 16/8 hours
Description: REC 4-8 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -75.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 / 26.00 m
Receiver height : 22.50 / 22.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 67.37 + 0.00) = 67.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.03	73.68	0.00	-2.46	-3.85	0.00	0.00	0.00	67.37

Segment Leq : 67.37 dBA

Total Leq All Segments: 67.37 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 59.77 + 0.00) = 59.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.03	66.08	0.00	-2.46	-3.85	0.00	0.00	0.00	59.77

Segment Leq : 59.77 dBA

Total Leq All Segments: 59.77 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 67.37
(NIGHT): 59.77
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 08:54:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC419.te Time Period: Day/Night 16/8 hours
Description: REC 4-19 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -75.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 / 26.00 m
Receiver height : 55.50 / 55.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 67.49 + 0.00) = 67.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.00	73.68	0.00	-2.39	-3.80	0.00	0.00	0.00	67.49

Segment Leq : 67.49 dBA

Total Leq All Segments: 67.49 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 59.89 + 0.00) = 59.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-75	0	0.00	66.08	0.00	-2.39	-3.80	0.00	0.00	0.00	59.89

Segment Leq : 59.89 dBA

Total Leq All Segments: 59.89 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 67.49
(NIGHT): 59.89
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 08:55:07
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec51.te Time Period: Day/Night 16/8 hours
Description: REC 5-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -66.00 deg -59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 48.39 + 0.00) = 48.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	-59	0.66	73.68	0.00	-8.96	-16.32	0.00	0.00	0.00	48.39

Segment Leq : 48.39 dBA

Total Leq All Segments: 48.39 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 40.80 + 0.00) = 40.80 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	-59	0.66	66.08	0.00	-8.96	-16.32	0.00	0.00	0.00	40.80

Segment Leq : 40.80 dBA

Total Leq All Segments: 40.80 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 48.39
(NIGHT): 40.80
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 08:57:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC58.te Time Period: Day/Night 16/8 hours
Description: REC 5-8 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -66.00 deg -59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 22.50 / 22.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 53.91 + 0.00) = 53.91 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	-59	0.03	73.68	0.00	-5.56	-14.20	0.00	0.00	0.00	53.91

Segment Leq : 53.91 dBA

Total Leq All Segments: 53.91 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 46.31 + 0.00) = 46.31 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	-59	0.03	66.08	0.00	-5.56	-14.20	0.00	0.00	0.00	46.31

Segment Leq : 46.31 dBA

Total Leq All Segments: 46.31 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 53.91
(NIGHT): 46.31
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 08:58:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec519.te Time Period: Day/Night 16/8 hours
Description: REC 5-19 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -66.00 deg -59.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 55.50 / 55.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 54.18 + 0.00) = 54.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	-59	0.00	73.68	0.00	-5.40	-14.10	0.00	0.00	0.00	54.18

Segment Leq : 54.18 dBA

Total Leq All Segments: 54.18 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 46.58 + 0.00) = 46.58 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-66	-59	0.00	66.08	0.00	-5.40	-14.10	0.00	0.00	0.00	46.58

Segment Leq : 46.58 dBA

Total Leq All Segments: 46.58 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 54.18
(NIGHT): 46.58
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:01:05
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec61.te Time Period: Day/Night 16/8 hours
Description: REC 6-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 37.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 54.24 + 0.00) = 54.24 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
37	58	0.66	73.68	0.00	-8.96	-10.48	0.00	0.00	0.00	54.24

Segment Leq : 54.24 dBA

Total Leq All Segments: 54.24 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 46.64 + 0.00) = 46.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
37	58	0.66	66.08	0.00	-8.96	-10.48	0.00	0.00	0.00	46.64

Segment Leq : 46.64 dBA

Total Leq All Segments: 46.64 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 54.24
(NIGHT): 46.64
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:06:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec66.te Time Period: Day/Night 16/8 hours
Description: REC 6-6 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 37.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 52.00 / 52.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 57.44 + 0.00) = 57.44 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
37	58	0.21	73.68	0.00	-6.53	-9.70	0.00	0.00	0.00	57.44

Segment Leq : 57.44 dBA

Total Leq All Segments: 57.44 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 49.85 + 0.00) = 49.85 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
37	58	0.21	66.08	0.00	-6.53	-9.70	0.00	0.00	0.00	49.85

Segment Leq : 49.85 dBA

Total Leq All Segments: 49.85 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 57.44
(NIGHT): 49.85
↟
↟

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:56:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec71.te Time Period: Day/Night 16/8 hours
Description: REC 7-1 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 37.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 53.00 / 53.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	54.10	54.10
Total			54.10 dBA

Result summary (night)

```
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.Hazeldean        !     1.50 !    46.50 !    46.50
--------------------+----------+----------+----------
                      Total                   46.50 dBA

♠


TOTAL Leq FROM ALL SOURCES (DAY): 54.10
                           (NIGHT): 46.50
♠
♠
```

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 12:04:37
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec76.te Time Period: Day/Night 16/8 hours
Description: REC 7-6 - Building A - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 37.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 53.00 / 53.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	57.34	57.34
Total			57.34 dBA

Result summary (night)

---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	49.75	49.75
Total			49.75 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.34
(NIGHT): 49.75

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:16:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec81.te Time Period: Day/Night 16/8 hours
Description: REC 8-1 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 70.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 31.00 / 31.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 63.55 + 0.00) = 63.55 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.66	73.68	0.00	-5.23	-4.89	0.00	0.00	0.00	63.55

Segment Leq : 63.55 dBA

Total Leq All Segments: 63.55 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 55.95 + 0.00) = 55.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.66	66.08	0.00	-5.23	-4.89	0.00	0.00	0.00	55.95

Segment Leq : 55.95 dBA

Total Leq All Segments: 55.95 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 63.55
(NIGHT): 55.95

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:18:48
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC813.te Time Period: Day/Night 16/8 hours
Description: REC 8-13 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 70.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 31.00 / 31.00 m
Receiver height : 37.50 / 37.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 66.42 + 0.00) = 66.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.00	73.68	0.00	-3.15	-4.10	0.00	0.00	0.00	66.42

Segment Leq : 66.42 dBA

Total Leq All Segments: 66.42 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 58.82 + 0.00) = 58.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.00	66.08	0.00	-3.15	-4.10	0.00	0.00	0.00	58.82

Segment Leq : 58.82 dBA

Total Leq All Segments: 58.82 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 66.42
(NIGHT): 58.82
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:19:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec825.te Time Period: Day/Night 16/8 hours
Description: REC 8-25 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 70.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 31.00 / 31.00 m
Receiver height : 73.50 / 73.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 66.42 + 0.00) = 66.42 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.00	73.68	0.00	-3.15	-4.10	0.00	0.00	0.00	66.42

Segment Leq : 66.42 dBA

Total Leq All Segments: 66.42 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 58.82 + 0.00) = 58.82 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	70	0.00	66.08	0.00	-3.15	-4.10	0.00	0.00	0.00	58.82

Segment Leq : 58.82 dBA

Total Leq All Segments: 58.82 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 66.42
(NIGHT): 58.82
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:22:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec91.te Time Period: Day/Night 16/8 hours
Description: REC 9-1 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -85.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 72.15 + 0.00) = 72.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.66	73.68	0.00	0.00	-1.52	0.00	0.00	0.00	72.15

Segment Leq : 72.15 dBA

Total Leq All Segments: 72.15 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 64.56 + 0.00) = 64.56 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.66	66.08	0.00	0.00	-1.52	0.00	0.00	0.00	64.56

Segment Leq : 64.56 dBA

Total Leq All Segments: 64.56 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 72.15
(NIGHT): 64.56
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:24:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec913.te Time Period: Day/Night 16/8 hours
Description: REC 9-13 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -85.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 37.50 / 37.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 73.35 + 0.00) = 73.35 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.00	73.68	0.00	0.00	-0.33	0.00	0.00	0.00	73.35

Segment Leq : 73.35 dBA

Total Leq All Segments: 73.35 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 65.75 + 0.00) = 65.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.00	66.08	0.00	0.00	-0.33	0.00	0.00	0.00	65.75

Segment Leq : 65.75 dBA

Total Leq All Segments: 65.75 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 73.35
(NIGHT): 65.75

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 09:59:45
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec925.te Time Period: Day/Night 16/8 hours
Description: REC 9-25 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -85.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 73.50 / 73.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 73.35 + 0.00) = 73.35 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.00	73.68	0.00	0.00	-0.33	0.00	0.00	0.00	73.35

Segment Leq : 73.35 dBA

Total Leq All Segments: 73.35 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 65.75 + 0.00) = 65.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-85	82	0.00	66.08	0.00	0.00	-0.33	0.00	0.00	0.00	65.75

Segment Leq : 65.75 dBA

Total Leq All Segments: 65.75 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 73.35
(NIGHT): 65.75

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:00:50
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec101.te Time Period: Day/Night 16/8 hours
Description: REC 10-1 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -73.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 30.00 / 30.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 63.89 + 0.00) = 63.89 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	0	0.66	73.68	0.00	-5.00	-4.79	0.00	0.00	0.00	63.89

Segment Leq : 63.89 dBA

Total Leq All Segments: 63.89 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 56.29 + 0.00) = 56.29 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	0	0.66	66.08	0.00	-5.00	-4.79	0.00	0.00	0.00	56.29

Segment Leq : 56.29 dBA

Total Leq All Segments: 56.29 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 63.89
(NIGHT): 56.29
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:41:44
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: REC1013.te Time Period: Day/Night 16/8 hours
Description: REC 10-13 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -73.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 30.00 / 30.00 m
Receiver height : 37.50 / 37.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 66.75 + 0.00) = 66.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	0	0.00	73.68	0.00	-3.01	-3.92	0.00	0.00	0.00	66.75

Segment Leq : 66.75 dBA

Total Leq All Segments: 66.75 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 59.15 + 0.00) = 59.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	0	0.00	66.08	0.00	-3.01	-3.92	0.00	0.00	0.00	59.15

Segment Leq : 59.15 dBA

Total Leq All Segments: 59.15 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 66.75
(NIGHT): 59.15

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:46:37
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec1025.te Time Period: Day/Night 16/8 hours
Description: REC 10-25 - Building B - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -73.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 30.00 / 30.00 m
Receiver height : 73.50 / 73.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 66.75 + 0.00) = 66.75 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	0	0.00	73.68	0.00	-3.01	-3.92	0.00	0.00	0.00	66.75

Segment Leq : 66.75 dBA

Total Leq All Segments: 66.75 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 59.15 + 0.00) = 59.15 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-73	0	0.00	66.08	0.00	-3.01	-3.92	0.00	0.00	0.00	59.15

Segment Leq : 59.15 dBA

Total Leq All Segments: 59.15 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 66.75
(NIGHT): 59.15

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:48:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec111.te Time Period: Day/Night 16/8 hours
Description: REC 11-1 - Towns - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 46.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 56.33 + 0.00) = 56.33 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	46	0.66	73.68	0.00	-11.11	-6.25	0.00	0.00	0.00	56.33

Segment Leq : 56.33 dBA

Total Leq All Segments: 56.33 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 48.73 + 0.00) = 48.73 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	46	0.66	66.08	0.00	-11.11	-6.25	0.00	0.00	0.00	48.73

Segment Leq : 48.73 dBA

Total Leq All Segments: 48.73 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 56.33
(NIGHT): 48.73
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:50:51
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec114.te Time Period: Day/Night 16/8 hours
Description: REC 11-4 - Towns - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 46.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 58.26 + 0.00) = 58.26 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	46	0.39	73.68	0.00	-9.30	-6.12	0.00	0.00	0.00	58.26

Segment Leq : 58.26 dBA

Total Leq All Segments: 58.26 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 50.66 + 0.00) = 50.66 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	46	0.39	66.08	0.00	-9.30	-6.12	0.00	0.00	0.00	50.66

Segment Leq : 50.66 dBA

Total Leq All Segments: 50.66 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.26
(NIGHT): 50.66
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:51:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec12.te Time Period: Day/Night 16/8 hours
Description: REC 12 - Outdoor Living Area - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -53.00 deg 54.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 68.00 / 68.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 60.08 + 0.00) = 60.08 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-53	54	0.66	73.68	0.00	-10.90	-2.70	0.00	0.00	0.00	60.08

Segment Leq : 60.08 dBA

Total Leq All Segments: 60.08 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 52.48 + 0.00) = 52.48 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-53	54	0.66	66.08	0.00	-10.90	-2.70	0.00	0.00	0.00	52.48

Segment Leq : 52.48 dBA

Total Leq All Segments: 52.48 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 60.08
(NIGHT): 52.48
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 23-01-2025 14:45:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec12r.te Time Period: Day/Night 16/8 hours
Description: REC 12 - Rev 1 - Outdoor LIving Area - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 24.00 deg 54.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 68.00 / 68.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 54.23 + 0.00) = 54.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
24	54	0.66	73.68	0.00	-10.90	-8.54	0.00	0.00	0.00	54.23

Segment Leq : 54.23 dBA

Total Leq All Segments: 54.23 dBA

↑
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 46.64 + 0.00) = 46.64 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
24	54	0.66	66.08	0.00	-10.90	-8.54	0.00	0.00	0.00	46.64

Segment Leq : 46.64 dBA

Total Leq All Segments: 46.64 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.23
(NIGHT): 46.64

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:54:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec131.te Time Period: Day/Night 16/8 hours
Description: REC 13-1 - Towns - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -58.00 deg 54.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 56.00 / 56.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 61.63 + 0.00) = 61.63 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-58	54	0.66	73.68	0.00	-9.50	-2.55	0.00	0.00	0.00	61.63

Segment Leq : 61.63 dBA

Total Leq All Segments: 61.63 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 54.04 + 0.00) = 54.04 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-58	54	0.66	66.08	0.00	-9.50	-2.55	0.00	0.00	0.00	54.04

Segment Leq : 54.04 dBA

Total Leq All Segments: 54.04 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 61.63
(NIGHT): 54.04
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:55:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec134.te Time Period: Day/Night 16/8 hours
Description: REC 13-4 - Towns - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -58.00 deg 54.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 56.00 / 56.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 63.37 + 0.00) = 63.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-58	54	0.39	73.68	0.00	-7.95	-2.35	0.00	0.00	0.00	63.37

Segment Leq : 63.37 dBA

Total Leq All Segments: 63.37 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 55.77 + 0.00) = 55.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-58	54	0.39	66.08	0.00	-7.95	-2.35	0.00	0.00	0.00	55.77

Segment Leq : 55.77 dBA

Total Leq All Segments: 55.77 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 63.37
(NIGHT): 55.77
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:56:24
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec141.te Time Period: Day/Night 16/8 hours
Description: REC 14-1 - Towns - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -46.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 72.00 / 72.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 56.12 + 0.00) = 56.12 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-46	0	0.66	73.68	0.00	-11.31	-6.25	0.00	0.00	0.00	56.12

Segment Leq : 56.12 dBA

Total Leq All Segments: 56.12 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 48.53 + 0.00) = 48.53 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-46	0	0.66	66.08	0.00	-11.31	-6.25	0.00	0.00	0.00	48.53

Segment Leq : 48.53 dBA

Total Leq All Segments: 48.53 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 56.12
(NIGHT): 48.53
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 10:58:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec144.te Time Period: Day/Night 16/8 hours
Description: REC 14-4 - Towns - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -46.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 72.00 / 72.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 58.09 + 0.00) = 58.09 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-46	0	0.39	73.68	0.00	-9.47	-6.12	0.00	0.00	0.00	58.09

Segment Leq : 58.09 dBA

Total Leq All Segments: 58.09 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 50.49 + 0.00) = 50.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-46	0	0.39	66.08	0.00	-9.47	-6.12	0.00	0.00	0.00	50.49

Segment Leq : 50.49 dBA

Total Leq All Segments: 50.49 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.09
(NIGHT): 50.49
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 11:01:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec151.te Time Period: Day/Night 16/8 hours
Description: REC 15-1 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 84.00 deg 86.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 47.13 + 0.00) = 47.13 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
84	86	0.66	73.68	0.00	0.00	-26.54	0.00	0.00	0.00	47.13

Segment Leq : 47.13 dBA

Total Leq All Segments: 47.13 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 39.54 + 0.00) = 39.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
84	86	0.66	66.08	0.00	0.00	-26.54	0.00	0.00	0.00	39.54

Segment Leq : 39.54 dBA

Total Leq All Segments: 39.54 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 47.13
(NIGHT): 39.54
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 11:02:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec155.te Time Period: Day/Night 16/8 hours
Description: REC 15-5 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 84.00 deg 86.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 13.50 / 13.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 50.95 + 0.00) = 50.95 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
84	86	0.30	73.68	0.00	0.00	-22.73	0.00	0.00	0.00	50.95

Segment Leq : 50.95 dBA

Total Leq All Segments: 50.95 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 43.35 + 0.00) = 43.35 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
84	86	0.30	66.08	0.00	0.00	-22.73	0.00	0.00	0.00	43.35

Segment Leq : 43.35 dBA

Total Leq All Segments: 43.35 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 50.95
(NIGHT): 43.35
↟
↟

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 11:15:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec161.te Time Period: Day/Night 16/8 hours
Description: REC 16-1 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -83.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 69.14 + 0.00) = 69.14 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-83	0	0.66	73.68	0.00	0.00	-4.54	0.00	0.00	0.00	69.14

Segment Leq : 69.14 dBA

Total Leq All Segments: 69.14 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 61.54 + 0.00) = 61.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-83	0	0.66	66.08	0.00	0.00	-4.54	0.00	0.00	0.00	61.54

Segment Leq : 61.54 dBA

Total Leq All Segments: 61.54 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 69.14
(NIGHT): 61.54
↟
↟

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:46:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec165.te Time Period: Day/Night 16/8 hours
Description: REC 16-5 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -83.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 / 15.00 m
Receiver height : 13.50 / 13.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	69.73	69.73
Total			69.73 dBA

↟
Result summary (night)

---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	62.13	62.13
Total			62.13 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 69.73
(NIGHT): 62.13

STAMSON 5.0 NORMAL REPORT Date: 15-01-2025 11:16:57
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec171.te Time Period: Day/Night 16/8 hours
Description: REC 17-1 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -77.00 deg -49.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 24.00 / 24.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 59.87 + 0.00) = 59.87 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	-49	0.66	73.68	0.00	-3.39	-10.41	0.00	0.00	0.00	59.87

Segment Leq : 59.87 dBA

Total Leq All Segments: 59.87 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 52.28 + 0.00) = 52.28 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-77	-49	0.66	66.08	0.00	-3.39	-10.41	0.00	0.00	0.00	52.28

Segment Leq : 52.28 dBA

Total Leq All Segments: 52.28 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 59.87
(NIGHT): 52.28
↟
↟

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:17:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec175.te Time Period: Day/Night 16/8 hours
Description: REC 17-5 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -77.00 deg -49.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 24.00 / 24.00 m
Receiver height : 13.50 / 13.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	61.86	61.86
Total			61.86 dBA

↟
Result summary (night)

---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	54.26	54.26
Total			54.26 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 61.86
(NIGHT): 54.26

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:20:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec181.te Time Period: Day/Night 16/8 hours
Description: REC 18-1 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -63.00 deg -20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 58.00 / 58.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	56.79	56.79
Total			56.79 dBA

Result summary (night)

```
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.Hazeldean        !     1.50 !    49.20 !    49.20
--------------------+----------+----------+----------
                      Total                   49.20 dBA
```

↟

TOTAL Leq FROM ALL SOURCES (DAY): 56.79
(NIGHT): 49.20

↟
↟

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:21:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec185.te Time Period: Day/Night 16/8 hours
Description: REC 18-5 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -63.00 deg -20.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 58.00 / 58.00 m
Receiver height : 16.50 / 13.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	60.05	60.05
Total			60.05 dBA

↟
Result summary (night)

---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	51.80	51.80
Total			51.80 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.05
(NIGHT): 51.80

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:22:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec191.te Time Period: Day/Night 16/8 hours
Description: REC 19-1 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 58.00 / 58.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	58.49	58.49
Total			58.49 dBA

Result summary (night)

----

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	50.89	50.89
Total			50.89 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 58.49
(NIGHT): 50.89

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:23:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec195.te Time Period: Day/Night 16/8 hours
Description: REC 19-5 - Building B - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 58.00 / 58.00 m
Receiver height : 13.50 / 13.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	60.88	60.88
Total			60.88 dBA

Result summary (night)

---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	53.28	53.28
Total			53.28 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 60.88
(NIGHT): 53.28

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:25:09
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec201.te Time Period: Day/Night 16/8 hours
Description: REC 20-1 - Building A - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -14.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 38.00 / 38.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	55.85	55.85
Total			55.85 dBA

↟
Result summary (night)

---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	48.26	48.26
Total			48.26 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.85
(NIGHT): 48.26

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:27:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec206.te Time Period: Day/Night 16/8 hours
Description: REC 20-6 - Building A - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -14.00 deg 0.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 38.00 / 38.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	57.69	57.69
Total			57.69 dBA

Result summary (night)

```
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.Hazeldean        !     1.50 !    50.09 !    50.09
--------------------+----------+----------+----------
                      Total                   50.09 dBA
```

↟

TOTAL Leq FROM ALL SOURCES (DAY): 57.69
(NIGHT): 50.09

↟
↟

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:28:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec211.te Time Period: Day/Night 16/8 hours
Description: REC 21-1 - Building A - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 48.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	49.79	49.79
Total			49.79 dBA

Result summary (night)

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	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	42.19	42.19
Total			42.19 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 49.79
(NIGHT): 42.19

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:28:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec216.te Time Period: Day/Night 16/8 hours
Description: REC 21-6 - Building A - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 48.00 deg 58.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 16.50 / 16.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↟
Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	53.46	53.46
Total			53.46 dBA

↟
Result summary (night)

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	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	45.86	45.86
Total			45.86 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.46
(NIGHT): 45.86

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 11:29:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec22.te Time Period: Day/Night 16/8 hours
Description: REC 22 - Outdoor Living Area - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : -44.00 deg 38.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 89.00 / 89.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	57.17	57.17
Total			57.17 dBA

Result summary (night)

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	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	49.57	49.57
Total			49.57 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 57.17
(NIGHT): 49.57

STAMSON 5.0 NORMAL REPORT Date: 23-01-2025 14:43:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec22r.te Time Period: Day/Night 16/8 hours
Description: REC 22 - Rev 1 - Outdoor LIving Area - Option 2

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 25.00 deg 38.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 89.00 / 89.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 48.96 + 0.00) = 48.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
25	38	0.66	73.68	0.00	-12.84	-11.88	0.00	0.00	0.00	48.96

Segment Leq : 48.96 dBA

Total Leq All Segments: 48.96 dBA

↟
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 41.37 + 0.00) = 41.37 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
25	38	0.66	66.08	0.00	-12.84	-11.88	0.00	0.00	0.00	41.37

Segment Leq : 41.37 dBA

Total Leq All Segments: 41.37 dBA

↟

TOTAL Leq FROM ALL SOURCES (DAY): 48.96
(NIGHT): 41.37
↟
↟

STAMSON 5.0 SUMMARY REPORT Date: 15-01-2025 12:37:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec23.te Time Period: Day/Night 16/8 hours
Description: REC 23 - Outdoor Living Area - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 77.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 68.00 / 68.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Hazeldean	1.50	58.11	58.11
Total			58.11 dBA

Result summary (night)

```
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.Hazeldean        !     1.50 !    50.51 !    50.51
--------------------+----------+----------+----------
                      Total                   50.51 dBA
```

↟

TOTAL Leq FROM ALL SOURCES (DAY): 58.11
(NIGHT): 50.51

↟
↟

STAMSON 5.0 NORMAL REPORT Date: 23-01-2025 14:46:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: rec23r.te Time Period: Day/Night 16/8 hours
Description: REC 23 - Rev 1 - Outdoor Living Area - Option 1

Road data, segment # 1: Hazeldean (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Hazeldean (day/night)

Angle1 Angle2 : 0.00 deg 23.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 68.00 / 68.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

↑
Results segment # 1: Hazeldean (day)

Source height = 1.50 m

ROAD (0.00 + 53.77 + 0.00) = 53.77 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	23	0.66	73.68	0.00	-10.90	-9.01	0.00	0.00	0.00	53.77

Segment Leq : 53.77 dBA

Total Leq All Segments: 53.77 dBA

↑
Results segment # 1: Hazeldean (night)

Source height = 1.50 m

ROAD (0.00 + 46.17 + 0.00) = 46.17 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	23	0.66	66.08	0.00	-10.90	-9.01	0.00	0.00	0.00	46.17

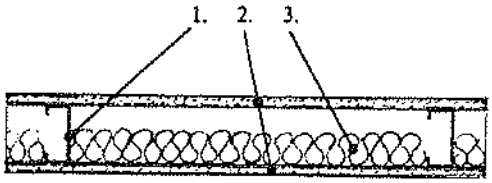
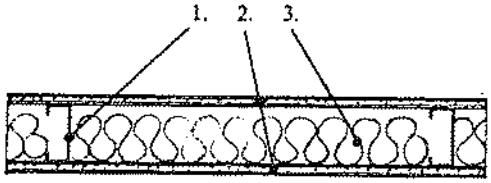
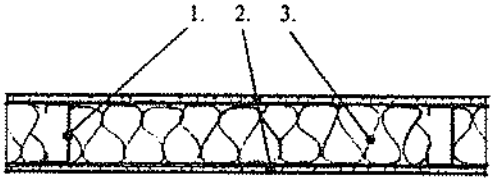
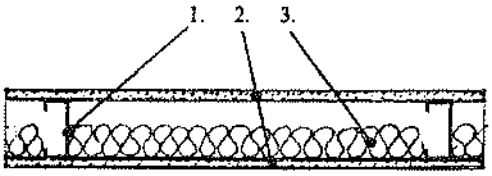
Segment Leq : 46.17 dBA

Total Leq All Segments: 46.17 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.77
(NIGHT): 46.17

APPENDIX 3

BUILDING MATERIALS INDUSTRY STANDARDS

Sketch	Brief Description	...	Laboratory Test Number Year Frequencies Tested Source of Data	STC	Section Number
	1. 3 5/8" metal studs, 24"o.c. 2. 5/8" gypsum board screwed to studs. 3. 2" thick sound attenuation blanket.	...	National Research Council of Canada NRC #66 1968 16f National Research Council of Canada	47	1.3.3.1.5.7
	1. 3 5/8" metal studs, 24"o.c. 2. 5/8" type X gypsum board screwed to studs. 3. 3" thick sound attenuation blanket.	...	Owens/Corning Fiberglas OCF 469 1967 16f Owens/Corning Fiberglas	44	1.3.3.1.5.8
	1. 3 5/8" metal studs, 24"o.c. 2. 5/8" gypsum board screwed to studs. 3. 4" thick sound attenuation blanket compressed to fit in stud space.	...	National Research Council of Canada NRC #66 1968 16f National Research Council of Canada	45	1.3.3.1.5.9
	1. 3 5/8" metal studs, 24"o.c. 2. 5/8" type X gypsum board spot-laminated to studs with daubs of adhesive 12"o.c. drywall screws at third points along joints and ends. 3. 2" thick sound attenuation blanket.	...	Riverbank Acoustical Labs. TL66-253 1966 16f Celotex Corp.	51	1.3.3.1.5.10